DOCUMENT RESUME

ED 036 038 EC 004 970

AUTHOR CRONIN, FRANCES, ED.

TITLE PROCEEDINGS OF THE SPECIAL STUDY INSTITUTE FOR THE EARLY IDENTIFICATION AND EDUCATION OF CHILDREN WITH HEARING IMPAIRMENT (AGES 0-4). (CATHOLIC CENTER, NEW YORK UNIVERSITY, NEW YORK, FEBRUARY 5-7, 1968).

INSTITUTION NEW YORK STATE EDUCATION DEPT., ALBANY.

PUB DATE FEB 68

NOTE 84P.

EDRS PRICE EDRS PRICE MF-$0.50 HC-$4.30

DESCRIPTORS *AURALLY HANDICAPPED, CHILD DEVELOPMENT, EARLY CHILDHOOD, *EDUCATIONAL PROGRAMS, *EXCEPTIONAL CHILD EDUCATION, IDENTIFICATION, LANGUAGE HANDICAPS, PERCEPTUAL MOTOR LEARNING, *PRESCHOOL CHILDREN, REMEDIAL PROGRAMS

ABSTRACT

A SUMMARY IS GIVEN OF THE PROCEEDINGS OF A SPECIAL STUDY INSTITUTE WHICH INVESTIGATED THE PROBLEM OF IDENTIFYING THE PRESCHOOL OR THE PRENURSERY CHILD WITH A HEARING IMPAIRMENT AS WELL AS POTENTIAL PROBLEM AREAS IN EDUCATIONAL PROGRAMMING FOR HIM. CONSIDERED ARE THE HEALTHY CHILD, SOME OF THE DEVIANT FUNCTIONING OF THE IMPAIRED CHILD, AND IDENTIFICATION AND EDUCATIONAL REMEDIATION, PARTICULARLY IN LANGUAGE AND PERCEPTION. SPEECHES AND PANEL REPORTS DISCUSS THE FOLLOWING TOPICS: REASONS FOR A SPECIAL STUDY INSTITUTE, CONTEMPORARY PERSPECTIVES ON THE EDUCATION OF THE DEAF, ACCEPTANCE AND UNDERSTANDING IN CHILD GROWTH AND DEVELOPMENT, DEVIANT FUNCTIONING OF THE YOUNG CHILD, LANGUAGE DISORDERS IN PRESCHOOL CHILDREN, AND THE DYNAMICS OF SENSORY MOTOR EXPERIENCES FROM INFANCY TO 6 YEARS. A SUMMATION IS GIVEN OF THE CONFERENCE PROCEEDINGS. (WW)

ED036038

Bureau for Physically Handicapped Children
State Education Department
Albany 1, N.Y.

PROCEEDINGS

The New York State Education Department
Bureau for Physically Handicapped Children
and
New York Schools for the Deaf

SPECIAL STUDY INSTITUTE for the Early Identification and Education of Children with Hearing Impairment

(Ages 0-4)

February 5, 6, 7, 1968

CATHOLIC CENTER
NEW YORK UNIVERSITY
WASHINGTON SQUARE
NEW YORK CITY, N. Y.

EC004970E

PLANNING COMMITTEE

The State Education Department
Anthony J. Pelone, Director
Division for Handicapped Children

Raphael Simches, Chief
Bureau for Physically Handicapped Children

Richard G. Hehir, Supervisor
Education of Speech and Hearing Impaired
Bureau for Physically Handicapped Children

New York Schools for the Deaf
Leo E. Connor, Superintendent
Lexington School for the Deaf

Frances Cronin, Superintendent
St. Joseph's School for the Deaf

Alice Rooney, Principal
J.H.S. 47 M

INSTITUTE COMMITTEE

Frances Cronin, Director

Carol P. Jacobs, Co-chairman
(Lexington School for the Deaf)
Patricia Slater, Co-chairman
(St. Joseph's School for the Deaf)

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION POSITION OR POLICY.

ED036038

FOREWORD

These Proceedings represent a summary of a Special Study Institute which was concerned with the problem of identifying the pre-school or the pre-nursery child with a hearing impairment as well as potential problem areas in educational programming for him. This summary considers the healthy child, some of the deviant functioning of the impaired child, and the indentification and remediation of that functioniing, educationally, in language and perception particularly.

Gratitude for the Institute must be directed to the Bureau for Physically Handicapped Children which directed Federal funds to facilitate its development under Section 301 of Public Law 88 - 164. Mr. Richard Hehir, Supervisor in the Education of Speech and Hearing Impaired in the Bureau, was very helpful in many ways.

We hope the material in the following pages will prove of value to all participants. May your contributing efforts to plan for new or better programs for young hearing impaired children be a source of encouragement to all who seek to create services where none exist.

Frances Cronin
Editor

TABLE OF CONTENTS

Page

Why A Special Study Institute 1
Richard G. Hehir

Keynote Address: A New Look at Education of the Deaf 2
Edgar L. Lowell

A Child is a Child 9
Millie Almy

Deviant Functioning of the Young Child: A Panel Report 17
Mrs. Rose Lindner
Mrs. Frances Savage
Miss Elisabeth McDermott
Mrs. Marjorie Jacobs
Miss Mary Wood Whitehurst

Identification and Remediation 44
Doris Johnson

Perceptual Motor Experiences 60
Iselyn Maughan

Summation 73
Edgar L. Lowell

PROGRAM

February 5

Chairman: Carol Jacobs

8:00 - 8:45	Registration
8:45	Welcome Frances Cronin, Superintendent St. Joseph's School for the Deaf Richard G. Hehir, Supervisor Bureau for Physically Handicapped Children
9:15	A New Look at Education of the Deaf Edgar L. Lowell, Administrator John Tracey Clinic Los Angeles, California
10:15	A Child Is A Child Millie Almy, Professor Teachers College, Columbia University
11:15	Audience Reaction
1:00 - 2:30	Panel "Deviant Functioning of the Young Child." Chairman: Mrs. Pauline Jenson, Instructor, Department of Special Education, Teachers College, Columbia University Participants: Mrs. Rose Lindner, Supervisor, P.S. 158 M, Infant Auditory Training Program, New York City Board of Education Mrs. Frances Savage, Director, Program for the Visually Limited, New York City Board of Education Miss Elisabeth McDermott, Nursery Teacher, J.H.S. 47 M, New York City Mrs. Marjorie Jacobs, Infant Program Coordinator Rochester School for the Deaf Miss Mary Wood Whitehurst, Audiologist, St. Joseph's School for the Deaf, New York
2:45 - 3:30	Buzz Sessions
3:30 - 4:00	Group Reports

February 6

Chairman: Patricia Slater

9:15 - 11:00 Identification and Remediation
Miss Doris Johnson,
Assistant Professor of Language Pathology
Institute for Language Disorders,
Northwestern University

11:00 - 11:30 Audience Reaction

12:30 - 2:30 Workshops

Leaders: February 6 and 7

Mrs. Hortense Barry, Coordinator,
Teacher Training Program in the Area of the Deaf,
Hunter College

Miss Barbara Cashier, Supervisor,
Speech and Hearing Program
St. Joseph's School for the Deaf

Miss Joan Godschalk, Tutor,
Pre-Nursery Program,
Lexington School for the Deaf

Miss Dorothy Hammitt, Teacher,
Language Disorder Department,
St. Joseph's School for the Deaf

Miss Laurette Herman, Tutor,
Pre-school Program,
Rockland County Center for the Physically
Handicapped, New York City, N.Y.

Mrs. Margaret K. Wallin, Supervisor,
Nursery Program,
Jr. H.S. 47 M

3:00 - 3:45 Workshop Summaries

February 7

Co-Chairmen: Carol Jacobs
Patricia Slater

9:15 - 10:15 Perceptual Motor Experiences
Miss Iselyne Maughan, O.T.R. Director,
Cerebral Palsy Section,
New York Rehabilitation Hospital,
West Haverstraw, New York

10:30 - 12:00 Workshops

Leaders as on February 6

1:30 - 2:15 Workshop Summaries

2:15 - 3:30 Summation
Dr. Lowell

WHY A SPECIAL STUDY INSTITUTE?

Richard G. Hehir, Supervisor
Bureau for Physically Handicapped

This three-day Institute was originally conceived of as a study focusing on the educational needs of pre-nursery age deaf children and counseling for their parents. The Education Department submitted a proposed Institute to the Office of Education in which we planned to accommodate a limited number of teachers working with the children and their parents at this level, that is, below 3 years of age. However, because of the Rubella Epidemic of 1963-64, an increased number of parents of handicapped children began to seek assistance from medical facilities and schools for their children. Many of these children had severe problems, some of which were multiple. The clinics became alarmed at the numbers of children seeking services. The schools for the deaf, because they have preschool programs, were also approached. Both clinics and schools are operating at near capacity and more children are coming. It was then decided that the Institute should be expanded into a conference and all those attempting to meet the needs of these children regardless of place of employment should be included, whether public schools working with children below five years or schools for deaf and clinics with those below three years. Thus, this conference was planned and I am informed that over 100 persons are registered for it.

We have represented today staff members from schools for the deaf both public and private, speech and hearing clinics, private and public agencies and regular public schools. With the advent of Title VI of the Elementary and Secondary Education Act, public schools are considering the establishment of preschool and kindergarten programs to help meet the needs of these children also. We hope that through this conference we will be able to gain a clearer insight into the communication, learning and other problems which this population exhibits. Certainly the children can benefit only if there are open and free lines of communication among all of the personnel and agencies concerned. We hope that you will utilize this opportunity by participating to the fullest in the workshop and the discussion sessions which are planned for you.

I want also to take this opportunity to express the Education Department's appreciation to Miss Frances Cronin, your Institute Director, and to her very able co-chairmen Mrs. Carol Jacobs of the Lexington School and Mrs. Patricia Slater of the St. Joseph's School who have worked so very hard in bringing to us a very exciting and stimulating program. They have obtained for us some outstanding persons who I feel confident will share with us their expertise so that we may be better able to work with the children in our charge.

It is hoped that this Institute will help you to discover new ideas, new approaches and encourage you to renew your efforts in behalf of the deaf child with whom you are working. I appreciate your interest and attendance at this Institute and I hope that the conference will be as gratifying to you as it is for me to have greeted you this morning.

A NEW LOOK AT EDUCATION OF THE DEAF

Edgar L. Lowell, Ph.D.
John Tracey Clinic

I thought it would be appropriate if I took as the topic for my talk the well-known quotation: "I come to bury Caesar, not to praise him." I think that in the education of the deaf we would be better off to concentrate on burial rather than to perpetuate our errors of the past. If we examine the record carefully, we can see that the job that we have done is not one to be proud of. If you compare the results of some of the recent surveys, including the work of the Secretary's Advisory Committee on the Education of the Deaf, you will see that regardless of how you teach the deaf child, that is, regardless of what school and what philosophy, there is a significant educational lag as compared with hearing children. You can also look back in the history, if you will, some forty-five or so years to when Pitner and Patterson did a similar survey and found that the result then was equally unsatisfactory. I think that the time has come to bury some of the old and unworkable concepts and concentrate now on a new look at the education of the deaf. It would be my hope that I can address myself to that topic this morning. Let me start with some recommendations that I offer for your consideration:

First, we must bury our complacency. I think that as educators of the deaf we tend to be a complacent lot. We are not ordinary teachers, and yet we accept ourselves as ordinary teachers. We are not even just specialist teachers. Our job is so completely different that I think we need to create and develop a new image. Can you imagine what any ordinary teacher would be up against in attempting to run a classroom; that is, in attempting to provide some sort of significant educational experience to a child without language? This, it seems to me, is such a unique challenge, such a unique problem that we have to stop thinking of ourselves as being teachers in the ordinary sense of the word and stop reacting as ordinary teachers do.

As a part of this new concept of our role, we must rid ourselves of the fallacy of thinking that "they" are going to do something about improving our work, or "they" are going to solve the problem of the multiply-handicapped child, or "they" are going to solve the problem of the great influx of young deaf children as a result of the rubella epidemic. The "they" is you, and as a part of this new image we must realize that if significant changes are to be made they must start right here in this room or with groups very much like this. We really provide the magic ingredient, if there is one, that can bring about these changes; the changes that are being forced upon us now by a combination of circumstances.

The next step in creating a new image would be to adopt a more logical approach to our work. Today we rely greatly on history, on emotion and on tradition. This is, in a sense, built into our work. The education of the hearing-handicapped child is a slow process, and so we must have the patience and we must have the knowledge of history, that is, what has gone on in the past, what has appeared to work in the past. But I sometimes fear that our dependence upon history and tradition has taken the place of a more logical approach.

We have many examples of the lack of logic in our everyday lives. If you think of the expenditure of energy going on right now to put a man safely on the moon and then realize that we cannot yet go safely to the grocery store, it suggests that this sort of lack of basic logical approach permeates our society. We can lick such things as polio, and transplant hearts, and yet what have we done about the common cold? Perhaps a broad scale examination of the logic of our behavior may be in order. The rubella epidemic may have been a godsend in that it has provided the impetus and the reason for a re-examination of some of the fundamental problems of our profession. I am hoping that out of this we can develop a new and improved image of ourselves and with that new image, improved service for deaf children.

Let us examine the logic, or the lack of it, in some of our educational plans. First of all, education represents a significant expenditure of manpower and money. I don't know what percentage of the New York State tax dollar goes to education, but in California it takes the largest part of our tax dollar. Yet, where else is there so much money and so much energy being expended with such a poor public relations program? If we were canning beans (which is my favorite example of a relatively insignificant enterprise as compared with that of education), do you realize the effort that we would expend to do market sampling and see whether people in a particular test area would like this kind of bean better than that kind of bean; with this much salt in it or that much salt; and what color labels sold best. You also know that we would probably have some people from Madison Avenue, perhaps, writing a jingle about our kind of bean. We would play that jingle over and over on the radio, and we would have ads in the paper and we'd cut our price from forty cents to thirty-nine and be sure that everybody knew about it.

How does that compare with what we do in education? How many people understand the kind of problems that we're faced with in our everyday work? How many people have any appreciation of the pros and cons of our product. I think it is clear that one of the things that we need is better public understanding of our efforts.

Next, we must ask ourselves what we do know about language. Language certainly is the major problem of the hearing handicapped child, and yet what do we really know about it? I'm afraid the answer is that we don't know as much as we would like to. The linguists are beginning to tell us something about language that opens up entirely new ways of thinking about language.

There was a study by Wicklegren at Massachusetts Institute of Technology in which he asked a large number of subjects to learn a list of words. These words were made up of one of six vowels in an l-k frame which produced the words - lick, leck, lack, look, luck and lock. He presented these to the subjects in a list of six and had them recall the list in the order in which they had been given. He ignored the some ninety-two percent of responses that they had remembered correctly and concentrated instead on the errors. If one assumed that memory was not operating according to some pattern, one might assume that errors would be a purely chance proposition, so that if lick were the correct word and you did not answer lick, you would be equally likely to have chosen any of the other five words.

An examination of the results showed that this was not the case. The errors were not random; they were not equally distributed. If one examines the six vowels used, one can see that according to conventional phonetic analysis these can be classified in a number of different ways, but primarily in terms of whether they are a front vowel in the case of lick, leck and lack or a back vowel in the case of look, luck or lock. They can also be classified in terms of the degree of openness with lick and look in the narrow position, leck and luck in the medium position and lack or lock in the wide position. Thus we have a two-way classification. It turns out that apparently the brain codes and stores, remembers if you will, the vowels according to these two sets of distinctive features. If forgetting takes place, one will forget differentially and be much more likely to forget the degree of openness than the place feature. If a front vowel were correct, let's say lick, and the person did not get it right, he would be much more likely to get one of the other two front vowels - leck or lack - or in the event that he chose a back vowel in error, the back vowel would have the same degree of openness as the correct vowel.

Now what does this imply? It says that there is developed within the brain a pattern for the coding and the storage of linguistic input. In other words, something in the experience of the individual has built up, in the brain, a system of instructions very similar to what we would call a program in a computer that tells the brain to classify those incoming vowels according to conventional phonetic analysis and store them on the basis of degree of openness or place of articulation. This is rather remarkable because very few of us would consciously have made that kind of analysis and I would suspect M.I.T. subjects did not either. It suggests that this whole program, if you will, is implicitly laid down by the experience of the organism.

As teachers we are attempting to influence or to intervene in this storage and retrieval operation, that is the input and output of language, and yet we know very little about such implicit categorizing and storage rules as are demonstrated by this example.

The implication here is that there are things happening within the brain which determine how our experiences with the world are categorized and stored. If you want to think in computer terms, programs are built up which guide the coding, storage and retrieval of information. We know very little about these programs. If we're trying to get back to a logical approach, it seems that inescapably we must try to simulate to the extent possible the kinds of experiences which enable the normal hearing child to develop these kinds of linguistic programs - these kinds of patterns which tell us how to store and retrieve linguistic information.

If we approach our problem this way, we find we have good support from the linguists. A number of them are now reporting that the rules of syntax are pretty well established in the young child by three and a half or four. If we look at the old educational preschool programs, we used to say, "Tsk, tsk, six years is way too late, we must start these children at four." Now we are beginning to realize that four and three and even two is much too late if we want to try to approximate anything of the linguistic experience of the hearing child. We can't wait until two to begin, we must start earlier, and we must, if we are going to be honest with ourselves, recognize that we don't know exactly what to do at these very early ages. This is why I am so delighted to see the topics assigned to the other speakers on this program. I think there is a great deal that we need to know about, for example, the maturational constraints for visual language input. We have been very disconcerted in our own clinic to keep records on the acquisition of certain learning tasks and find that, for example, if you start some of them at six months, the child does not master them until eleven months. If you start them at ten months, the child also masters them at eleven months. We also need to know what the visual linguistic equivalent is of what goes on in the crib for the hearing child. These are the kinds of problems which I hope we will be addressing ourselves to in the balance of this meeting.

We also need to discover hearing impaired children early. You may ask why early identification is critical if we have already admitted that we are not sure of what to do with the three month old deaf child. Perhaps I have overstated my point. The methods that we are using now are meeting with success but we all feel certain we could do a better job if we understood the learning process more completely. Early detection also serves as a sort of a DEW line, in other words, the distant early warning system, and even if we don't know today precisely what should happen, what is the most significant or most effective visual language experience for the three month old child, we at least want to find them just as early as possible so that as we begin to learn we will have the opportunity to try out, to explore, to investigate new and, hopefully, improved methods.

In California we're having great discussions over the most appropriate method of detecting deafness at the earliest possible moment. There is no simple answer. Improved public understanding and support of our work would be a great asset in early detection. Certainly every time we have a small article in the newspaper, or a spot on television, or on radio, it alerts more people to the possibility that maybe, "Johnny's problem is that he has a hearing loss." Another approach is to carry out hearing tests in the new-born nursery, while others are relying, as we do, on community wide preschool and infant screenings. There is obviously no simple answer. We need to use every possible approach and we need to use them about twice as hard as we are at the present time.

If we are going to start to approximate the linguistic experience of the hearing child, we are going to have to involve the parents in the educational program. This is inevitable, absolutely inescapable, and I would like to devote the remainder of my remarks to that topic.

I was impressed, when I first read Freud, by the way in which he anticipated your objections. I found this very disarming and it impressed me so that I would like to benefit from that experience by anticipating some of the common objections raised concerning parent education. First of all, when we attempt parent education we go completely against our whole societal educational pattern. If you think of the changes in education in America in the past few decades, you will recall that it wasn't very long ago that fathers had to teach their sons how to plow and farm and fish and hunt if the family was to survive. It wasn't very long ago that mothers had to teach their daughters to spin and weave and sew and preserve if the family was going to survive. What has happened in this short space of time? What educational responsibilities do parents have today? We've taken most responsibilities away from them. In California they say we have replaced the three R's with the three D's which are - Driving, Dancing and Dating. There is very little parental involvement left in education. One exception was that our work with the new math did involve parents. They did have parent meetings; they did invite parents in to explain the new math, but they told them, "For heaven's sake whatever you do don't try to help your child with the new math, you'll only confuse him. You can check his answers, but don't tell him how you did it, and don't try to explain it to him."

Contrasted with this, we are saying that parents must be involved in one of the most significant learning tasks that any of us ever faced. I believe this is an important consideration in any attempt to involve parents. We're doing something that's different than what people expect.

Secondly, we have some problem in making parents believe. We do not do the kind of public relations job which I have suggested earlier. We often present the parent with a conflict of ideas. Parents don't have to travel very far before they will be exposed to three or four different philosophies or approaches. Parents with handicapped children are understandably interested; they would like to find a better method; they would like to find a magic cure. If they don't run into conflicting educational philosophies they can get information in their newspapers about a new attachment that you put on the television set which enables the hard of hearing to hear or the new device that you wear in the ear that restores hearing. What do we have to offer them in place of this exciting hope? Despite what my boss, Mrs. Spencer Tracy, says about "learning being fun," it is also a lot of hard work to make it fun.

There's a great deal of preparation and planning and getting ready to make learning fun.

We have a major task in convincing parents about the importance of language. We are dealing with a very complex brain function - think of how much more complicated it is than the rocket ships that we are sending to the moon. Yet look at the preparation that goes into the training of the personnel and the support groups associated with our space effort as compared with the preparation of the people we have who are going to be working with this much more complicated piece of machinery - the brain. The comparison suggests we are facing this very difficult task without adequately trained personnel. I don't mean adequately trained in terms of our present concept of the profession but in terms of the new concept that we should have.

If we are to engage parents in the educational program, we must remember we are not just dealing with the transmission of information. We must also deal with parents as individuals; as people with feelings; and frequently also as people with problems. We must learn, for example, to listen to the parents. I think it was Carl Rogers who used to illustrate the problem of listening, sometime when you're having a discussion. particularly if it begins to get a little heated, stop and establish a new ground rule which says that no one can speak until they have restated the ideas expressed by the previous speaker to that speaker's satisfaction. You'll find that it changes the complexion of the discussion completely because suddenly you just have to stop and try to truly hear what the other person is saying. I think this example illustrates the kind of thing which most of us have very little opportunity to learn as a part of our professional training and yet it represents one of the things that is critically important if we are to work successfully with parents.

Against these and many of the other objections that I could offer about the difficulties of working with parents I would like to remind you that parents are like the rockets in Viet Nam. I believe they are called SAMS. We think the great advantage of working with parents is that they are SAMS - S for the significant person in a child's life. If we are ever to approximate the auditory linguistic experience of the hearing child, we must make use of every possible opportunity for visual linguistic input. If you realize how inefficient the eyes are as substitutes for the ears, and realize how much the eyes are engaged in other tasks, such as helping us get around and getting food into our mouths, we will realize that the opportunity for meaningful visual language input is so limited that we must have some significant individual in the child's life engaged in the linguistic input process. It is clear that parents are the most significant people in their children's lives. A - they are available. They're the only ones that are around enough of the time to do the important language building task. M - they are motivated. They have the greatest motivation of all - the interest in helping their own child.

When we can bring these positive features together; when we can rid ourselves of the historical concept of parent education as being a rack of folders in the hallway or a monthly meeting with coffee and doughnuts; when we can share with parents the ideas and knowledge that we already have, share with them the truth about the gaps in our knowledge; when we can share with them our enthusiasm and hopes and dreams, then - and only then - will we begin to see the kind of progress which parent education can bring.

I believe that the rubella epidemic has provided us with a crisis in our professional lives that creates the opportunity for a re-examination of our roles and the directions that our educational programs should take. We have an opportunity to revise the image of our work, to improve that image in the eyes of the public, and perhaps most significantly of all to bring the parents into the educational picture, as the only meaningful way to provide for the deaf child an approximation of the auditory language input of the normal hearing infant.

A CHILD IS A CHILD

Millie Almy, Ph.D.
Teachers College, Columbia University

I'm sorry that I heard only part of Dr. Lowell's address because I think that these are times when those of us who have been around for a long time get the feeling that there is so much to be known and sometimes we get a little bit apologetic and I sometimes feel a little bit inferior about the little bit that I do know that is so much based on experience with living with young children and that really is the reason for the choice of title: "A Child is a Child." I chose that title because I think that it's important to remember that a child is a child regardless of his condition and we no longer think of the child as a small adult.

Even this fact, however, has been challenged recently. I've just been reading, as maybe some of you have, the new volume, or relatively new volume, by Philip Ares called CENTURIES OF CHILDHOOD. It reminds us that it is only in very recent times that we have thought about the child as a different kind of organism from the man - that we have thought of him as not just a smaller person. I think Ares also reminds us that every generation that comes along uses children for its own purposes. I have sometimes thought in the years since Sputnik that our generation perhaps uses children to relieve our anxieties about our own intellectual inadequacies in a world that's changing so fast we can hardly keep up with it. Consequently we have a tremendous emphasis currently on the possibilities for pouring information in a great number of ways into children to make them intellectually more adequate - at least so the theory runs.

Now as some of you who know me, and as I look over the audience I see some who do, you know that I, too, believe that we can help children to be much more adequate intellectually than we perhaps have done in the past, but for the purposes of this morning I want us to think about the child not just as an intellectual being, not just as an information processor, but as a person who feels, who reacts, who is an emotional being, a person who is a moving being who does things to his environment. I think that, so far as the importance of the emotional dimension is concerned, one of my favorite illustrations of this is a youngster I knew who was in a four-year-old group, (and if you know four-year-olds, you know they are still very much at the stage where they act on their impulses, on their emotions, and learning to control emotion and impulse is one of their big jobs). When my small friend who came home from her group one morning, her mother asked her, "How did it go today?" and she said "Oh, it was fine. It was good. You know I didn't hit, bite or spit."

A second reason for titling this talk "A Child is a Child" is that I have had so many occasions to be reminded of this. I've had very little experience with children with handicaps. One of the earliest and most vigorous memories comes of the experience many years ago when I was in the clinic at Yale and we then had in the nursery, children who were regarded as normal. (It was always interesting how those normal children sometimes turned out to have an amazing number of problems.) We had one child who had many problems and many assets - but perhaps the most outstanding feature of that child was that she was not using language. In those benighted days, when there wasn't as much known about deaf children as there is now, we struggled for a long time with the question of whether or not Claire was a hearing child, and, as a matter of fact, it turned out that she was not. It took a great deal of careful diagnosis to be sure that one was not dealing with an emotional problem. I think actually that it was a combination, but the basic problem was the lack of hearing ability.

The other day I was out for the first time in a long time to St. Joseph's School for the Deaf and again I was struck with how much I saw on the part of the children that reminded me of other children whom I knew who were hearing children. I must say that I was hit more by the similarities of those children with hearing children than by the differences. And then last summer I had the interesting and intriguing experience of being in East Africa. I was working with children who did not speak English and who had a completely different cultural background from mine and again, I suppose because of the kind of background I have, I was much more struck with the similarities to other children whom I knew than I was with the differences.

I think that the third reason for emphasizing that a child is a child is that I believe the key to success in teaching and working with young children is the ability to grasp where each one is - each as an individual child - in his development along various lines and in the integration of that development. I think, then, that we have to understand the individual child and his development in order to get a notion of how he is receiving our instruction. I suppose Dr. Lowell would say that this is the matter of how the child responds to our brand of beans. I will come back to this notion again because I think that the ability to temper what one expects to where the child is is extremely important, and when I say temper what one expects to where the child is, I do not mean that one leaves the child at that point, that is that we say, as we have said in the past, "Well, this is his state of readiness" and go on, you know, waiting for him to make the next step. Rather do I mean that we are prepared to show him the next step and to see that he does make it. Thus, I might add to the title, "A Child is a Child" - "And a Child Becomes" - a child grows and a child learns and a child changes.

Now I'd like, in further development this morning, to think with you along what I'm sure you know, is taken from the formulation of Anna Freud. And then not quite satisfied with taking just Anna Freud's developmental lines, I want to add to them some lines that I think can be derived from the work of Piaget. I remember so vividly Anna Freud's making this comment once, that it's normally part of being a child to want to be bigger, to want to become. Children want adults to help, want adults to help them to become bigger, to grow and to function as bigger. And when I use the word bigger, I'm using it in the childish sense which means that a first-grader is a tremendously big, effective person when he is looked at by a four-year-old, and of course, as you know, a third-grader is a tremendous person to a first-grader. It's this notion of where one is going. I'll mention the lines that I want to talk about - and come back to them in more detail. One of them is the movement along the line from dependency to emotional self reliance and, of course, if we look along toward the adult, it's eventually adult inter-dependence. It's the line from sucking to rational eating, from wetting and soiling to bladder and bowel control, from irresponsibility to responsibility in body management, from the body to the toy and eventually from play to work and then, in terms that are both Freud's and Piaget's, from egocentricity to companionship, from egocentricity to the ability to take the view of another person, from sensory-motor patterns of action to preconcepts and then to actual concepts, and I think all of these lines are important.

As I say, I think that now the tremendous push is on the line of intellectual development, but I suspect that when we gain more information, when we understand the nature of development and learning much better than we do currently, we will see how the intellectual and the emotional, or if you will, the cognitive and the affective are intertwined and cannot really be separated in quite the way some have been separating them. Let's go back for a moment to this question of from dependency to emotional self-reliance or in Ericson's terms from trust to autonomy to initiative. I'm taking just that part because I'm thinking here about children of the age that you probably will be working with. I understand a few of you will be working with infants, but many of you will be working with what I like to call the toddlers; that is, the children who are beginning to walk but they're still at that point where they tip easily, their center of gravity is such that they fall over rather quickly, it doesn't hurt particularly if they do.

I am convinced that this trust arises out of adequate meeting of a particular child's body needs, and one of the things that we are learning currently is what wide variation there is in the nature of different children's body needs. This notion was to some of us a kind of old wives' tales when a mother would say, "Well you know this one was so placid. His brother was so different." These differences have very great significance for the infancy period depending on whether or not the child's body needs have been adequately met - whether or not his parents were able to meet those needs easily and, you see, each parent has his particular stance in this direction. Some people find it easy to bring out the child who is very active, and others, because of their own organic pacing, I guess one might call it, find it quite difficult.

But, if there's been trust, then the push from the eighteenth month to age two and a half year is "Me Do". It's a marvelous thing to see, and often a source of considerable difficulty between a child and adult because, as someone has put it, the beautiful, confident two - so independent but so lacking in judgement - that is so inexperienced. And the picture that I always get, and again I go back to the Yale Clinic, is of a youngster that I had who, as I recall, at the time was not yet two. (We had children as young as sixteen months then.) She was a beautiful child, petite - tiny, but very well put together and very confident. But when you are not yet two, there are some things that muscularly you simply cannot do. We kept the children for lunch and nap in those days. I can remember contemplating Miriam on her cot, then getting up and looking at the shoes with laces which were intriguing to her. I don't know what the perceptual-motor pull was, but she wanted to lace those shoes herself, and she couldn't. And I think this is rather typical of the age - the terrific push to do, to do myself. And the challenge to the adult is how do you make possible as much doing for the child and as little frustration as having to have an adult take over for you. There is this tremendous independence.

There also is at this period, this toddler period, a considerable amount of ambivalence about doing and being independent. Gesell used to say that they seemed almost to go two ways at once. And the ambivalence, I think, comes around the tie to the known adult. Now you notice that I've been using the term "known adult"here because I think that we are increasingly aware that the child may make a tie to someone who is not the mother. There's some very good work coming out of Schaeffer's studies in Scotland showing that the child develops a relationship with what he calls an attachment figure, and this is the person who is special, with whom he associates himself, and with whom he may have problems of separation. I mention this business of ambivalence and problems of separation because when you deal with children this young, these can get to be one of the most critical problems that you face. They get to be critical not only because the child may want to continue with the parent (this is one of the reasons why I think Dr. Lowell's point about parents is so important) but he may have difficulty in being comfortable with the adult who is going to help him in the new setting for training.

As you study the way a child responds to the departure of the mother, you can see a great deal about the child's cognitive development. First of all, at this point, he has a very inadequate concept of time, so that "Mommy will be back in half an hour," doesn't mean a thing. He may need to have Mommy's purse left with him or her scarf. I remember one young two-year old that I had once who, in a Sunday situation, could be just fine as long as we didn't take off his outer clothing. If you took off his outer clothing, he was going to be left. Now his time concept was apparently associated with this. The children perceive these situations very differently than adults do. I've had a couple of illustrations of this, one very recently - a very competent four-year old whom I know and who has been in my office. Her mother is an associate of mine. I found that when I visited at their home she studied me for quite a while. It was clear that, bright as she was, it didn't fit - I didn't belong.

What I'm saying here is that some of the clinging, some of the resistance and so on that we get come partly from the fact that the child is tied to the adult, but also come from the fact that he doesn't quite understand the situation. And, of course, I'm well aware here that when the child lacks language, the problem will be compounded.

There's a rather amusing incident of this problem of separation that I might report to you. It goes back also a number of years to the time when I was directing a nursery school and I had a large, very bright three-year old who started off the beginning of the school year loving to come to school, enthusiastic about everything, intrigued by all the materials, and I think, immersed in them. Then one day, no one quite knew why - and three's can't always, even with language, communicate well what they're responding to, - he began to cry, he didn't want to come. And when he got there he didn't want to stay, so we went through a long period of re-adjustment with this child - that it was all right to stay and that his mother was coming back for him, and so on. I hit on the device of using the telephone to call his mother if he really got terribly upset, we could call her. This was fine. Then came the day when things had settled down but he was still somewhat apprehensive and I had to be away, so I said to him, "You know I'm going on a trip. You come to school on Thursday and you come to school on Friday and I won't be here, but you ask if you need to call your mother. I don't think you will but if you should, you can ask Miss So and So to call." And when I came back, they told me the story of how David had responded. It illustrates, the fact that the child so often takes out of the situation something different from what we thought we were putting into it. They said David went around crying, and he said, "Where's Dr. Almy? I need her. She's my maid. I want her to call my mother."

Well, these are some of the problems associated with progress along the developmental line from dependency to independence.

Now the next two lines that Anna Freud talks about - the line from sucking to rational eating and from wetting and soiling to bladder and bowel control. Perhaps we don't need to spend a great deal of time on them except to note that problems along these two lines are rather to be expected. They are rather a part of normal development, and their significance comes perhaps when one finds regression, that is marked regression, along eitheror both of these lines. And certainly, again, these lines are not separated from any of the others. What happens to the child who is upset when he's brought into a new situation for the first time very often is that he goes back to wetting or as some children whom I've known do - get the opposite kind of reaction and simply are unable to use the facilities that are provided for them in the new setting.

The fourth line is one that perhaps we have not thought as much about as we might. It disturbs me somewhat that currently in the emphasis that there is on the intellectual, there is not a sufficient emphasis on the fact that the child has also to learn to handle his body competently. This is the line from irresponsibility to responsibility in body management. Think about this for a moment and think how gradual and yet how profound the changes in the first three or four years of life are, and particularly, I think, think about how progress in co-ordination makes possible a much larger world for information processing. The child who is beginning to get out and around on his own two feet has so many more possibilities for learning about the world and also, his parents will tell you, so many more possibilities for getting into trouble. Now when I talk a little bit later about how concepts are developed and how thought develops, we might keep in mind here the close tie between the progress along this body management line and the progress in the intellectual area. Arrested progress in this line from irresponsibility to responsibility reflects the emotional concerns that the child has or the lack of understanding of some situations.

Then there is the line from the body to the toy and eventually from play to work. Anna Freud, as you probably know, points out the fact that the child who has no or very little stimulation from outside or isn't getting enough support and enough interaction from the adult finds satisfaction within his own body and you will have the rockers and the thumb suckers and so on. But in the normal course of development the attention is turned outward to the toy and play is the mode through which the child learns and through which the intellect develops. Now, today because of Piaget, I think, in part, play is emphasized for the opportunities it provides to encounter the environment and to acquire concepts. But we might also think of the importance of play as an opportunity to integrate, for the child to integrate his body experiences, the body experiences that are involved in learning to eat and learning to eliminate in social ways and as the subject of various kinds of assaults from the environment, incorporating his own body experiences into his mental repertory - developing these through fantasy and so on. This is an area on which we once spent quite a bit of time and then neglected it. I hope that, as there is more and more concern currently with play, we will come again to see its significance.

Then the line from egocentricity to companionship. Now this is Anna Freud's term but Piaget's notions fit nicely here. In Piaget's terms he talks about the self freeing itself from itself and becoming a self among others. What he means here is that as the child has experiences with others including those who are of his own size and shape, more or less, he becomes aware that he too is a self. One of my favorite experiences is in this area and those of you who have worked with two-year olds have, I'm sure, seen the same thing - that the two year old is acutely aware of himself from the standpoint of his needs and his desires and what he wants, but the fact that other people have like wants and needs isn't yet quite with him even to the fact that he doesn't always realize that their persons take up space and that he can't take up the same space as they do. You know the big box that will be full of three or four two-year olds - and I mean full - and along comes another and inserts himself right in the middle of them absolutely oblivious to the needs or the interests of his peers.

Now associated with this is development along the line from egocentricity to the ability to take the view of another - what Piaget calls from being egocentric to being able to de-center a cognitive aspect of development - and then from what Piaget would call sensory-motor patterns of action to preconcepts to true concepts eventually. Now Piaget sees the basis of the development of intelligence in the year old infant's reaction to displaced objects and he suggests that the child's searching indicates an internal representation. For example one of my assistants who has been doing her thesis in Piaget; also fortunately the mother of an infant, came in very proudly the other day and said, "you know, two months ago if we put a ball under the blanket, the baby paid no attention to it but I just did the Piaget experiment in which I hid the ball behind something and then moved it and the baby not only looked where I had it first, but she also looked beyond that; she really did a search for it and Piaget would say that now she really has a notion of the permanence of objects. He believes that this comes - this notion that objects in the world have a degree of permanence. This indicates, to him, that the child is beginning to represent, to have internal images of his experiences. Now these images, - and I emphasize this because, in view of some of the discussion about the visual, it may be important - these images, he believes, are not visual, they may have visual elements but they are actions, images of actions, which the child has taken and Piaget thinks of thinking as an internal activity. The child's visual image is not passive; it is rather a matter of active and, he would say, deferred imitation. An image can be kinesthetic or visual. It is a diminutive imitation, similar to the one that results in outward imitation, but it's limited to an internal experiencing.

I'm emphasizing this because Piaget may be saying something rather important to all of us including people who are working with children who lack hearing, because he is emphasizing the importance of what the child does, his activity on his environment as the source of what comes eventually to be symbolic activity. One of the illustrations of this that I use frequently with my classes is an illustration of a child whose father brought home some candies, some of these jaw breaker candies, these clear translucent colored round candies. The child's behavior with them was extremely interesting. It seemed to say that there was a language component in her understanding in the concepts that she was developing but there also were some activity components. The mother had noticed that the child had polished apples for the fruit bowl and as she polished she made a comment "wound", then the little jawbreakers came home and what she did with those was again this action on them; and also she went upstairs and brought down a marble game. Now marbles are also round, and she took the jawbreakers and used them in place of the marbles. Eventually there was the comment "dees is wound like marbles is wound." As I studied Piaget, currently the thing that is significant to me is the activity. I think that he would say that it's the activity that adds meaning to the word. Indeed he says something to the effect that from the viewpoint of the person forming symbols, words should be thought of as end products of internalized action. To learn to name a thing presupposes a kind of basic knowledge of the permanence of things and this of course is described as object constancy or object formation and once the child has acquired this intellectual skill of regarding objects as having a being and a continuity then he can assimilate names to them but Piaget's theory suggests that it's the activity and contact with the object that precedes the naming of it. So I emphasize the importance of this particular line of development from sensory motor patterns of action to preconcepts and then to true concepts.

The young child, the three-year-old particularly, is in a period where he makes many generalizations but because of his lack of experience, his generalizations often are inadequate and may lead him into problems in other areas. One of the instances of this is the three-year-old who overheard someone talking about the new baby at the So-and-Sos and he got quite concerned and said "but what did they do with the old one?" This is illustrative of a confusion in concepts but generalizations being made like mad. Perhaps what one might say here would be that the knowledge of where the child is, of where he is coming along this line, can help one to understand him and one can then pace what one does to the kind of understanding that the child has.

Most of you, as I gather, are going to be working with three-year-olds, some of you with even younger children and some of you with babies. Now my suspicion is that you will find that some of the children will be well advanced along certain developmental lines and not so well advanced along others. If I were to conclude with any maxims, they would be something like this, that two year olds and three year olds, regardless of their handicap or the normality of their development, seem to need adults who can appraise where they are along these lines, who are willing to let them be where they are on these lines, but who are always alert to what the next step may be so that they can set the stage for being bigger. A second maxim that I would have is that the twos and the threes, and indeed the younger ones also, are active learners, that they learn much through experimentation and manipulation of a planned environment, and, going along with this, is the fact that they do not sit well and that they do not wait well and one of the premiums that is placed on working with children this young is the necessity for pacing what one does to what they are doing. Twos and threes can and do learn from one another but I think they probably learn more in an informal play kind of setting than they do in a more highly organized kind of setting. Twos and threes, for the person who is alert to their development, have many moments when they are teachable. I sometimes think that the success of working with children of this age is in being able to capture the teachable moment. They also have long intervals when they spontaneously practice developing skills.

I should think that the challenge for the teacher of the hearing handicapped child would be to find the ways to capture the teachable moments that are there and to capture also some of the tendencies to practice, putting them to new and important uses and that to do this, you must, of course, know a great deal about speech and hearing but it also seems to me that your success may be contingent on your knowledge of the child as a child.

Panel: DEVIANT FUNCTIONING OF THE YOUNG CHILD
Chairman: Pauline Jensen
Teachers College, Columbia University

(Editor's note: The following pages represent an informal presentation of experiences of practitioners with young hearing impaired children. These remarks were transcribed from tapes and are presented for whatever assistance they may provide.)

Introduction:

I'm not listed as a speaker, but I am going to use the prerogative of having a microphone here to make a few opening remarks before the panel discussion. I was thinking this morning about the composition of this group and how interesting it might be if there were an informal poll taken of our collective preparations and backgrounds. I think it might indicate to us the breadth of the needs of the children with whom we are concerned; also the breadth of the kinds of skills that we bring to these children. These needs are so broad that they must be answered by more than one point of view, more than one set of skills. This child, who would be the whole child, needs his teacher, but he also needs his therapist. Some individuals attempt to combine these roles, and perhaps an appropriate term for them might be "teacher-therapist", but whatever the role and whatever we call ourselves, whatever the setting we work in, this child demands the attention of trained observers of different persuasions. There must be eyes that see in him potential for normal functioning, which say when to reinforce behaviors acceptable to growth patterns in our society. There also need to be eyes which detect deviations from the norm, which see possible routes for remediation acceptable to this particular child. The panel of speakers who join us this afternoon represent this scope of child needs and our concerns. Each speaker has something to say to each of us, something relevant to our task in our particular setting.

Our first speaker this afternoon is Mrs. Rose Lindner, Assistant Principal at the School for Language and Hearing Impaired Children at Public School 158, Manhattan. She has a number of functions. She is Supervisor of the Infant Auditory Training Program, at the same time she functions as Co-ordinator of the Experimental Nursery Program for Multiply Handicapped Children at N.Y.U. Hospital.

Mrs. Lindner: Thank you Mrs. Jensen. The Infant Auditory Training Program sponsored by the School for Language and Hearing Impaired, at Public School 158, is currently operating in six speech and hearing centers in New York City. They are Bellevue Speech and Hearing Center - the Director is Dr. J. Ormond Frost - and the Elmhurst Speech and Hearing Center - the Director is Dr. Ira Ventry. Our teacher of the deaf assigned to service these two centers is Miss Alice Sullivan, and I would like to mention at this time that Miss Sullivan was the first teacher of the deaf, way back in 1955, to start an Infant Auditory training Program in New York City. We have a center at the Hunter

College Speech and Hearing Center - the Director is Dr. Norma Rees; and Manhattan Eye and Ear Hospital - the Director is Miss Doris Hansen. Our teacher assigned there is Miss Jacqueline Jankoff. Our center at King's County - the Diredtor, Dr. John Duffy, our Teacher, Mrs. Madeline Appell and lastly our center at Jacobi Bronx Municipal - Director, Dr. David Kliger; our Teacher, Miss Josephine Moran. There are eighty-eight children in the Infant Auditory Training Program now, ranging in age from six months to three and one-half years. The children are referred to our Infant Auditory Training Programs or the I.A.T.P. as it is called by the staff of the Center involved. The I.A.T.P. is primarily concerned with the education of the deaf infant. The objectives are to initiate a program of service as soon as possible after a diagnosis of deafness has been made by the medical disciplines. We provide amplification, we utilize whatever residual hearing is present, we attempt to make auditory impressions, we have a concurrent program of parent education which I will not take the time to explain now, since it came up before, but we do have a program of individual parent education and we cooperate with the staff in the selection of the most effective hearing aid for each child and a proper referral to an educational agency when the children are of school age. As I mentioned before, the program is primarily for deaf infants. Usually when our children reach three, the magical age, they are referred by the staff to either regular school nursery programs for those children who have made very good progress or to a school for the deaf where the need is indicated. However, because of the '64-'65 rubella epidemic, in September 1967 many of our children of school age were not accepted in schools for the deaf. There were two main reasons. The first was the sheer number of children applying for admission and the second the multiplicity of handicaps involved with some of the rubella children. In September 1967 the administrators of the hospitals where we operate and the administrators at P.S. 158 decided to keep these older children. There was no place for them to go, so we kept them in the program hoping that they would be accepted in schools for the deaf during the school year before the new wave of babies appeared; the '65's and '66's. Therefore, the children scheduled are "old-timers - they've been in the program one or two years, either in small groups or on a staggered weekly basis. The new '64's, and there were many, believe it or not, who came in, the '65's and the '66's were maintained for instruction on an individual basis. However, to our chagrin and sorrow, these three year olds still have not been accepted in schools for the deaf and the babies are now coming in increasing numbers. Admittedly some of them are on your waiting list, but there are many more who are waiting for initial admissions evaluation. We have just completed a survey of our present population. As I mentioned there are 88 children. Of the 88 children, 47 or more than half, are 1964 births, that means by age they're eligible for school placement. Of the 47, there are 12 multiply-handicapped, but that still leaves us with 35, a large group of children that we know of, and I'm sure there are many more not known to our program who are 1964 births, who should be in schools for the deaf right now.

To return to the multiply-handicapped rubella child: during the late spring of '67, Dr. Louis Cooper of the N.Y.U. rubella study project approached Dr. John Harrington, who is the Principal of our school, and Mrs. Frances Savage of the Bureau of Visually Impaired and asked them to set up an educational program and to provide the personnel to implement this program for the multiply-handicapped children known to his agency. It was not known at that time what could or should be done for these children, but they decided to try. Miss Theresa Malone, who is experienced in early childhood education at Jr. H.S. 47 and the Infant Auditory Training Program at King's County, was provided by Dr. Harrington. Mr. Mel Eisenbach, an experienced teacher of the blind, was provided by Mrs. Savage; and the services of Miss Marilyn Hiller, a teacher experienced with emotional problems, was recruited by Dr. Cooper and added to our staff. Dr. Cooper promised the complete cooperation of all the disciplines involved in his group. Twenty-four children were referred for placement. These children had two or more handicaps and last September I would have said hearing loss in addition, but now in February, I agree with Miss Sylvia Morgan and I say they have communication disorders. They have visual impairments, heart conditions, orthopedic disabilities and emotional problems.

All the children were screened by the three teachers and two supervisors, Miss Marion Benson from the Bureau of the Visually Impaired and myself. Equipment was provided by the Board of Education by monies provided by the National Foundation through Dr. Cooper. A bright, cheerful room at Bellevue was provided for our use. It was explained to the parents that the program was experimental in nature, that first it would be on an individual basis of instruction and that, hopefully, we could evolve to a nursery group situation. The parents were asked to transport the children two and three times a week and I must say that they've been most cooperative. Our attendance has been excellent. We have learned from each other since September. Our teachers are becoming quite proficient in teaching in other areas of the handicapped and they're all "great" now in motor training. We go through tunnels and we go up ladders and parallel bars. We've been working with the disciplines involved at N.Y.U.; the psychiatric staff for our emotional problems and autistic children. With rehabilitation all of the orthopedic children have been fitted with braces and they are now receiving training in using them. We've cooperated with Dr. Maurice Miller of the audiology staff for various types of trial hearing aids, and we plan to cooperate in hearing aid evaluations. All eligible children have been staffed for State aid. All of the training has been, as I mentioned, on an individual basis up to this time. In the near future we plan, as we feel it's possible, to go into group training.

This is, as far as I know, the only project of its kind in New York City and I think probably in the country. We feel that we have learned quite a bit from working with these children, we don't know all the answers but we are willing to try and, if I may at this time, I would like to thank all of the staff with whom we've been working in the evaluation of all our children. They've done a tremendous job in staffing them, getting them hearing aids and training and referring them to you people and may I once again ask all of you people in the schools to open your doors to these children as soon as your space permits. Thank you.

Thank you Mrs. Lindner. The next speaker is Mrs. Frances Savage who is Acting Director of the Program for the Visually Impaired, New York City Board of Education. Mrs. Savage works with Mrs. Lindner in the Bellevue program and it would be interesting to hear more about that program from her point of view.

Mrs. Savage: For the second time within a quarter of a century the community is faced with the problem of large numbers of damaged children who are visually handicapped. In the forties, retrolental fibroplasia caused the damage to the vision. Most of those children had a single disability. Now in the sixties we are faced with the rubella syndrome babies and there the problem is greatly exaggerated because of the tremendous degree and tremendous variation in handicap. But since '41 we have been identifying the fact that there was a definite connection between the child born of a mother who had had rubella during the first trimester of pregnancy, and it was Gregg, the Australian doctor, who did some research on this and thought in the beginning that the deficits would be in the area of hearing and sight. Further studies have shown that these are just two. Perceptual difficulties, orthopedic difficulties, mental retardation - you name the disability and somewhere within the framework of the child victim of the rubella syndrome you will find the disability.

We had a severe epidemic in '63 and '65, as you are all well aware, and it brought together large numbers of children and an even larger number of professionals who turned their attention to the problem of these children. More research, more thinking had been done in the '60's about this problem of the multi-handicapped child and finally there was quite a meeting at Bellevue, New York University Medical Center last year on the problems that would be facing the medical profession and every other profession, as well as the community at large, as these children approached school age. From that meeting came a symposium at the New York Association for the Blind, that was sponsored by the New York State Commission for the Blind; the Association; the Industrial Home for the Blind, an agency that throughout the years of its operation has been thoroughly immersed in the problem of the deaf-blind; and the New York Jewish Guild for the Blind. It was at that time that we were approached by Dr. Cooper and were asked, "What is education going to for these children?" Prior to this time a blind child did not come to a public school until the regular school age - a kindergarten at five, and then up the steps. Each of the three major agencies in the city had provided the nursery and pre-nursery facility for these infants. So we in the field of the visually handicapped have not had the experience which you who are working in the field of the deaf have had with nursery school placement for the handicapped children. Many of our blind youngsters of nursery school age we found to be capable of going into a sighted nursery with supportive services from the staff of the agencies.

Now we are facing a different problem. These rubella babies do have a visual problem. They need to have their training started at a very early age and here was a man who was doing tremendous research in the field saying, "What is education: - not just "the educators of the deaf" - but, "What is education going to do for these children?" Well, at Bellevue we've started and let me say that we started with a great deal of ignorance, a great deal of knowledge, a great deal of supportive services and a great deal of ambition to see what could be accomplished with these children. The immediate members of the staff, the three teachers, have been encouraged to be as imaginative and creative as they possibly can be. They've been encouraged to see success in the smallest movement, the smallest change. They've been encouraged to think in terms of "We'll try this, If it doesn't work, we'll change and we'll try another road to our goal and our goal is very simple." It's a goal that we can keep within sight because if we looked to what's going to happen to these children in four or five or six years from now, then I'm afraid we would lose sight of the immediacy of the situation, which is to try to prepare these children to go on into another educational facility. Now, part of our problem is going to be the staffing of these experimental programs. We were fortunate in having three people capable of working on the educational level with these children. There will have to be teacher training centers set up that will train people not to look at an individual handicap. We will have to have professionals who have had experience with a wide range of handicapping situations; who are flexible enough to say, "This may be, on paper, the handicap, the major handicap, but as I see in working with the child, isn't this other condition more disabling as far as he is concerned?" We have to be at all times observant and at all times willing to try a new approach, a different approach, even an unorthodox approach.

Now, you may say that I am speaking as a supervisor, as an administrator, that I don't realize the problems in the actual classroom, the problems that the therapist or the audiologist or the other people in the field may experience. Although I have not had too much experience with the profoundly deaf child, I have had experience working with multiply-handicapped children whose problem, one of whose problems, is vision, whether it be total blindness or legal blindness. One problem has been vision and the other problems that we've come across have been the problems of the brain injured, the problems of the child with a perceptive problem, the child who has an orthopedic problem, the child who does have a hearing loss. We have speech problems associated with some of those where there is a hearing loss that is correctable so that some useful hearing is available for speech learning.

I think one of the things that each of us in each of the professions represented here today must strive for is good communication. Once we bring the child into a school situation, the teacher is going to meet the minute by minute, hour by hour problem of this child and his problems. How can she approach him? Where can she get help? I think we, representing the visually handicapped, or you, representing other professional areas, must be willing to keep our lines of communication open so that the person who is in the classroom with the child may have the benefit of another's understanding of her problem, the benefit that a professional trained in the field of psychology, of therapy, or whatever else, may bring to her aid. It is only in this way that we will find our teachers becoming secure enough to be innovative. The colleges will have to bring to bear their forces to give the basic training to the teachers involved but it is going to be the problem of all of us to give the supportive services to the teacher.

I think we have to determine the severity of the problem, not just as it relates to the child, but as it relates to the whole family constellation. What is this child doing to the family? What is the impact upon the family? How can the forces of the trained social worker change or alleviate the difficulty that the family as a whole is presented with in this situation? I think we are going to have to look forward again to what the needs of these children are going to be. At first we thought in terms of total blindness. Most of our children had some residual vision which they must be taught at this particular time to use. One of the youngsters at Bellevue is absolutely fascinated by light and by directing him to lights, you can get him to do a number of things. A ball was introduced into the school the other day which was very bright and shiny and the object of the teacher was to have the child gain some locomation. For this the aim was to get him to crawl through a tunnel, and there wasn't much success. Then finally the teacher, being creative, decided to roll the ball through the tunnel and sure enough our little angel went crawling right after it. That was the stimulus that really gave impetus to his motivation and our desire at the same time. We must think in terms of each of the child's deficits and how each is going to bear on the future education of the children even as we have to keep the immediate goal in mind.

The future is going to be a difficult one. Many of these children are going to need a residential school situation because of the total training that will be involved, and there again it will be a matter of staffing. I think that waiting lists should be "anathema" to us and they should disappear as soon as we can get facilities for these children. So we need the identification of the child, we need the staffing and we need the understanding of the community-at-large because this is going to be a tremendously expensive proposition. If we have thought public education has been expensive in the past, there will be no equal to the expense of what these children will need in the future. This is just the beginning of our problem. We are just getting the 2½ and 3 year olds. Now let me say that these 2½ and 3 year olds are not going to present you with the picture of the normal or average 3 year old. You are going to find that there are many differences. This is an extremely immature child. This is a child who lacked stimulation from the first weeks of his life, possibly until better than age two or more, because there wasn't the identification of the child's needs. You're going to find the child coming into you at age 3, whose small muscle control will be nothing compared to the normal 3 year old's muscle control, whose crying noises even will be the whimpering sound of an infant. We cannot expect, at age 5 or 6, of these severely damaged children what we expect of the usual blind child or the usual deaf child or the usual brain-injured child at the same age. There is going to be another underlying deficit that will be all-pervasive and this we must realize is another handicap. There has to be a constant evaluation of these children. There has to be a constant evaluation of program. The children are going to have to be looked at, at all times, individually, and I think we have represented this. As I say, I know of no totally blind children at the moment who are victims of rubella syndrome. That does not mean that there aren't any. Although these children have correctable eye conditions, the condition will remain a most serious one. The cataracts may be removed and some vision may be restored but it is not going to be truly good vision. It will be good usable vision, but the demand made upon a child, who is learning to lip-read, who has a visual deficit, is going to be a very demanding sort of thing and here is where we will have to use a one-to-one relationship.

My husband is a great one for mnemonics. They always confuse me. However, I do have one that I'd like to mention S is for "See". See the child as a whole person, don't see this defect, the other defect. See the child as a whole person and see the child's impact upon the family constellation. "I" is "identify". Identify all the areas of damage, all the specific areas as far as you can. Make plans for remedial work, if possible, but nonetheless, be aware of each of the deficits. And the "G" is "Get help", go out into the community, go to your local hospitals; anywhere you please, but get help. Get the community aroused to the needs of these children. Find where the best is and seek out the best. Don't be afraid of change. If your program has been going in one direction and you hear of a program that is going in a different direction and seems to have possibilities, get the information and be willing to change. Get help from appropriate disciplines. "H" is "Hold to a positive approach" and if one theory fails, discard it and don't have any fear or feeling of shame in the discarding of something that you tried and failed at. You've done a good job because you've tried it, and without fear, without regret or reproach to yourself or others, initiate a new approach. And then the "T" is for "Try". Try in all ways, try, for as a professional person there is a commitment to do just that, to try to help, even in the face of insurmountable odds. Thank you ladies and gentlemen.

Miss Elizabeth McDermott is a nursery school teacher at Junior High School 47. Here she has a full-day program which includes hearing children, an innovation which has been tried in several parts of the country.

Miss McDermott: We were told this was to be rather informal so maybe I could start by saying, "Hi". I thought the very best place to start would be with the admission of the children to Junior High School 47, which is on 23rd Street, in Manhattan, in case you are not familiar with it. The children are referred to us by either private doctors, hospitals, clinics or infant centers, or any other agency concerned with the child. First they send a letter to the school, along with the child's records, indicating the possibility that the child may need to attend a school for the deaf. The supervisor in charge of admissions goes over all the records and takes notes, always important. The parents of the child are sent a letter when the supervisor feels that it is time to see this child. The parents and the child come to Junior High School 47 for an interview. At that time the child receives a complete workup, both medical and educational. The staff involved in this workup are the supervisor in charge of admissions, an otologist, the teacher, audiologist and possibly the psychologist, depending on what the supervisor has read in the records. Each member of the team gives his reactions after the workup has been done. A team decision is made, hopefully. If it is felt that we will not be able to meet the child's needs in Junior High School 47 then the supervisor redirects the child either into a regular school, with or without lip reading assistance, or to the Bureau of Child Guidance through the psychologist. Now, if the child has already been known to the Bureau of Child Guidance then the school from which the child has come is notified and given the information that has been compiled at Junior High School 47. If the child is under age for admission to another specific school, say, for example, Public School 158, in Manhattan, then we suggest admission into a regular school until such time as they can be admitted. The general requirements for admission into Junior High School 47 are that the child is no younger than two years eight months in September, that they are toilet trained and that they have a hearing loss tested at 70 db ISO in the better ear. There's a great deal of flexibility, except for the age level. A social history is then taken by the secretary and the children and their parents are brought to meet the teacher and the other children in the class. At times we make admissions on trial when we're not quite sure, when the team wants to give the child the benefit of the doubt although we're not quite positive that the school can meet his needs. This is usually made a Bureau of Child Guidance case at that time. It is hoped that when the child comes to school for admission he is wearing hearing aids and if he is, he is expected to wear them from the very first day.

Now, the part that I like to talk about is the fact that we have hearing children in our pre-school, and of course the main thing that I want to talk about is the advantages that we see in having the hearing children in the program. This year we have thirty-nine children in the class. Twenty-eight of the children are hearing impaired and eleven children are normally hearing. The greatest of all the reasons for having the hearing children is that it provides a very normal, natural, situation for a nursery program. As Dr. Almy said this morning, "A child is a child", and they should be treated first as children and then as deaf children, in our opinion. Hearing children use many natural expressions and gestures, all of which are at the child's interest level and his eye level. The situation and the environment provide a natural stimulation for the deaf child to use his voice. He sees the other children using it, he sees the teacher speaking to the children which provides him with stimulation to use voice also. We find that our speech and expressions remain much more normal that they would if there were no hearing children in, and we can compare this, since we do not have hearing children at the five year old level. We have them at three year old and four year old levels and our expressions and our pattern of speech are much more normal when the hearing children are around. The other thing is that it prevents the constant tapping of the children on the shoulder to try to get their attention. They see the hearing children responding to a command and they turn around to look to see what's going on. We don't have to be constantly tapping them on the shoulder and interfering in what they're doing. The hearing children provide for us something else that I think is very important. Too often, I think we lose sight of what the normal child is doing. If you've worked for a number of years with just the deaf child, the young deaf child, when you have the hearing children there it's very easy to say, "Well this child is doing very, very well, or this child has a problem in this area." You have some pattern of behavior to act as a guide for you. The hearing children, I'm sure you'll agree, if you've ever worked with them, are very much more used to socializing and play.

I imagine that most of you know that the program is extremely informal for the children. It may not be that informal for the teachers, but as far as the children are concerned, it's extremely informal. We want them to be themselves, to be uninhibited, and the hearing children provide an atmosphere of relaxation for both the teacher and the child in that they're very sociable - they're very willing to talk and they're very natural with each other. Frequently people ask me, "Don't the hearing children come up to you and ask about why that child is wearing a hearing aid"? or "Do the other children make them nervous"? It's amazing, children accept far more things than we do as adults. If we could all keep hold of some of the innocence of childhood, I think the deaf adult would have far less of a problem when he goes out to meet the community. The hearing children accept the deaf children very readily and they're very concerned about them when we go out to the yard, when recess is over and we're calling them back into the room. They'll go over and they'll take them by the hand. They don't think twice about the hearing aids. As far as they're concerned they're just children. Another thing is that the deaf children are much quicker to imitate another child. As Dr. Almy also said this morning, a first-grader seems very big to a three year old. A child that can do something that the other child can't seems pretty big too and our deaf children attempt to do things that I don't think that they would normally try to. Still another advantage is that the curriculum has no boundaries. Things that you might be tempted to do but you might have inhibitions about trying with a deaf child, when hearing children are there you say, "Well I'll try it and see what happens," and with their help the deaf children can get into the activity without being noticed or without being inhibited by it. The hearing children will have their problems in the activity as well as the deaf child, they'll all be blended together so you can work with them as a group. More important than anything else, and I think that maybe sometime we don't stop to think of it too, is that the program provides a marvelous opportunity for the hearing children. They have a very small class, compared with classes they would be in if in a regular nursery school. They have the opportunity of working with children who have a lot to offer them and it provides, no matter how limited, some education of the public to the needs of the deaf child. So far, we've had, well I've had, two mothers who have come to me who were interested in getting into the New York University Program next year for teaching the deaf and we have one mother who was already teaching in our school whose daughter went to the pre-school. So it does provide some means of educating the community around us to the needs of our children.

Now, I thought perhaps I could describe the program that we have just for one day, a typical day with the three year olds. The deaf children arrive by bus about eight-thirty in the morning. The hearing children come with their parents. We have what we consider free-play from eight-thirty to nine-thirty in the morning. As mentioned, we have a full day program. The free-play includes such things as painting, brush and finger painting, water play, sand box. We have large toys in the room, such as a slide and seesaw. We have puzzles, clayboards, hammer and nail sets, blocks, workbenches and coquettery, plus many other items. Then from nine-thirty to about twenty to ten the children clean up. They're responsible for taking care of the toys that they've taken out and for putting them back. We have pictures on the shelves and we demand that the children eventually get into the habit of cleaning up. In the beginning we're very lenient about it, but as time goes on we expect much more. Then the children have snack, which is about twenty minutes. Out motto for snack is "talk, talk, talk". The children will talk among themselves and it is amazing how the hearing children will talk to the deaf children. And they get to know that they have to look at them and they have to try to bring them out to an activity or if we call one of the children because it's their turn to pass the cookies, the hearing children are very good about saying, "Tommy, Tommy, Beth is calling you, it's your turn", if they are not watching. Then from ten to about ten-thirty, we have a teacher-led activity. This is about the most formal of our informal program of the day. One day we'll have a story telling where we use a book or a film. We have homemade films that we've made of the things that the children have done, or we'll use a felt board, or we use selected Captioned Films that come in from the Federal Government. Then on another day we might take auditory training, both formal and informal. Another day we'll have rhythms and group games. Usually one day a week we have singing, which is kind of a sight to behold. I half way play the guitar and the children sing very well. It's a good thing they sing loud, I'm afraid, but they enjoy it and it's amazing how they come out. They're very, very good at it and they really love it. They're really terrific. I like them. Then we have outdoor play from about ten-thirty to eleven-fifteen or so. If it's a bad day, we go up to the gym. We hope to get out, it's much easier that way. They're not too good at creative play, at the age of three, in a big gym. From eleven-thirty to about twelve-fifteen we have lunch in the room. There again the hearing children are in the room with the deaf children and we have turns taking lunch. The teachers don't eat with the children, but they're constantly talking to them. Then the hearing children are dismissed into the neighborhood.

The parents pick them up and the deaf children take naps, because they have to wait till they go home in the buses. But they get up about a quarter to two and then again we have more conversation, getting their coats on, talking about things that we are going to do the next day or things that they have to take home. Then the children are dismissed. The keynote of the whole program for the day is flexibility. Many times we have full intentions of doing something but it just doesn't get done because the children aren't ready. And this is a problem that we've come across this year. The new children's parents remain with them in the room as long as we feel it's necessary. If the child takes a very long time, then the parents stay just as long as the child needs it.

I thought maybe you would be interested in knowing what the composition of our class is this year. There are thirty-nine children in the class, as I mentioned, twenty-eight deaf children and eleven hearing children. Fourteen have definitely been diagnosed by the clinics and the programs they've come from as rubella children. Ten more children probably suffer the effects of rubella, but the reports are very indefinite. Three children are children of parents where there's deafness in the family. One child had meningitis at the age of two and one-half and the other eleven have normal hearing. As far as multiple handicaps are concerned I'll mention what we have gathered from the records and our own observations. We have approximately seven children who we feel are brain injured or have some type of communication disorder. We have four children who have cardiac disease. We have no children with cerebral palsy or epilepsy. We have approximately seven, and sometimes we think more, emotionally disturbed children. We have six children who are orthopedically handicapped and six children who are visually handicapped and all of the children have a hearing loss to some degree. The thing that struck me when I went through the records of all twenty-eight children was that there was a very high incidence of pneumonia among these children. Many of the children that we have, have had at least three bouts of pneumonia before they arrived at school. I don't know what bearing this has, but it is a very common thing, as you go through the records, to see. I would like to mention my observations, which are strictly personal, about the particular group of children that we have and I'm not really classifying them as rubella children. Many of the things are common to the children who are listed as having rubella, but then again, we have many children who have not definitely been diagnosed as rubella children. So they're just observations about the class as a whole, not in particular. In general, most of the children are very socially and physically retarded. They are definitely multiply-handicapped. Many of the reports that we receive from the clinics, the hospitals, the doctors and the programs where the children had been before do not present the picture that we see of the child now. And I think a great deal of this has to do with the fact that they're now involved in a five day program and they're also involved in a group activity which many of them haven't been. Many of the things we see are the same but there are an awful lot of differences too. Auditory training is a very pleasant experience for them. They all take to it very quickly but it's on a very slow basis again and I'm comparing this to children that I've had before. I've had threes I think three times before. We keep the children for three years. The same teacher goes with them from three, four and five. I feel that most of the children in the class or at least a great number of them have perceptual problems. Many of the toys that they're playing with, which have perceptual training value, they're not able to handle. There are a greater number of children whom we have now who are prone to crying, kicking, throwing themselves down on the floor, and to tantrums. We have at least five who do this on the average of one of every three days. Now part of this could be the fact that usually we have the children on the first floor where they are not involved with steps, but they still are taken upstairs to go to the yard while we're on the first floor. I find that it's at fire drills and just coming up in the morning and going down at dismissal that this difficulty is pronounced. We have plenty of help, which is fortunate, at dismissal, but the children do have difficulty. One reason I find they have difficulty is that they seem to be smaller and their legs don't seem to reach the steps that easily. Another problem is just their general gait. The sandbox seems to be an unbelievably popular place this year. I don't know if it has anything to do with the tactile pleasure they're getting out of it but every morning they make a line for the sandbox. They avoid climbing on the bars out in the yard. When they cry, as Mrs. Savage mentioned before, they whimper. It's a real baby cry, it's not an out and out cry. Everything they do seems to be on a much less mature level than in previous years. When they grasp things, their hands have that baby movement. They don't go at something. It's a real baby grasp. Their eye-hand coordination is poor. They're very slow in learning how to use eating utensils. We have a great problem at lunch. Most of the children go to pick up the food with their fingers even though they have been shown how to use the spoon. I have also found another problem in having the parents come in in the beginning. The parents are very frightened. They do not seem to know what to expect. We have gone through some type of parent education. We always had a parent education program and we have had meetings for the parents already this year. We're doing it on a much more broadly based program this year as well as an individual basis because we feel the parents need this a great deal. The other thing is that we have, as we said, children who have multiple handicaps. We've had two children so far who have had eye operations. Their parents very unrealistically feel that the children are going to have their hearing corrected the same way as they had their visual problems corrected. And it's very hard for them to accept the fact, even when they've been told otherwise over and over again. Some of the particular things we have been doing which differ from previous years are: We're moving at a very much slower pace than we have before. Our program hasn't basically changed but what we expect the children to do has changed. We constantly give them more but we don't demand that they do it because it appears that they are not capable of it. It's a much slower pace. The level at which we are now with these three year olds is far below the level at which we were with the three year olds three years ago. We have been continuing, as I said, to make a more concentrated parent education program. We are relieved to have hearing children in the group and we hope that we can keep them as we have always because we feel that they have so much to offer the deaf child; so much that is hard to write it down on paper. We have the singing, as I mentioned, with the guitar. The whole group of thirty-nine children are in on this session. We hope to make experiments as we have done in previous years with tape-recorders using the tape recorder for auditory training. There is another aspect to our parent education program. About three or four years ago I went to listen to Miss Whitehurst speak at Hunter College. She mentioned that she had a little school book that she gave the parents to jot down things that the children heard or reacted to at home from session to session. And it gave me the idea that if we had what we call a school-home book where the teacher during the week can jot down things which have come up in class concerning that parent's child. On Thursday nights we can take the books home and write up a letter, sometimes three or four pages long, telling the parent what's gone on during the week. Since we had so little contact with them because of the fact that we are not a "neighborhood" school, we write down everything that we have noticed during the week including the problems that we might have encountered. We ask whether they are doing this at home, or how something else is going on. On Mondays, the parents return the books with their notes telling us what they have found. Last year I finished with a group of children that I had for three years. I had eight children and so far, five of the parents whom I had last year have come up to me to say, "You know what we miss most of all? We miss that laundry bag coming home Friday without a book in it." So I guess it has proved what we want.

Mrs. Jensen: Mrs. Marjorie Jacobs, who is an audiologist, acts as coordinator for an infant program, which is jointly sponsored by the Rochester Hearing and Speech Center and the Rochester School for the Deaf. We would like to hear something about your work, Mrs. Jacobs.

Mrs. Marjorie Jacobs is Coordinator of a joint program in Rochester in which school and clinic combine forces to assist parents and a number of handicapped deaf children.

Mrs. Jacobs: I have been asked to give a description of the Demonstration Home Program at Rochester. The title "Demonstration Home Program" is not a very good one I'm afraid as it sometimes conjures up visions of a Home and Furniture Show, or at best, the cover of Better Homes and Gardens! When the program was started in 1966 the title was "Home Centered Program", as the teacher went out into the home. However, since the spring of 1967, the numbers have grown so rapidly from 17 to 53 that we found it impractical for the teachers to continue in this manner. In September 1967 a Demonstration Home was set up on the second floor of the pre-school building at the Rochester School for the Deaf and we are in temporary quarters pending the availability of rooms when new building projects have been completed. We have an apartment which affords a cosy, home-like atmosphere for the families. The program in Rochester may be defined as a comprehensive pre-nursery program for children with auditory impairments and communication disorders, including evaluative procedures, a Den-Home for parent instruction, individual therapy, and a small nursery group situation.

The program is a joint venture, sponsored by two agencies, namely the Hearing & Speech Center of Rochester Inc. and the Rochester School for the Deaf.

The venture was started by those two facilities in order to meet the needs of a particularly pressing community problem. A close relationship is maintained between the medical profession, hospitals, clinics, special educational departments, educational programs and institutions in Rochester and the surrounding areas. The program is supported through the Bureau of Physically Handicapped Children of the State of New York with additional financial support from the Women's Club of Rochester. All services are free.

The early identification, diagnosis treatment, therapy and educational planning have long been understood to be of the utmost importance in the success of the habilitation of the hearing impaired child, irrespective of the degree of hearing loss. At the beginning of this century, J. K. Love in his book, "The Deaf Child" published in 1911, after visiting American schools commented on the need for this in the early years of a child's life. He stated "The early admission of the child to schools and institutions has done much to bridge the chasms separating the deaf from the hearing. The loss of years between 2 and 7 is irretrievable. These are the years of language and speech formation and there are no other years quite like them between the cradle and the grave. It is the reason why the center of interest in the education of the deaf is shifting from the school room to the nursery". I will not go into details with regard to the amount of publications that have appeared in the literature emphasizing the importance of the child's early years being the ideal time both psychologically and physiologically to develop language, and basic learning skills. Since the beginning of this center considerable gains have been made in early pre-school education for the hearing impaired. In more recent years the attention of all of us concerned with auditory disorders has been focused upon the importance of parent education and the utilization of the early formative years, especially the first two years of life. The late Dr. Edith Whetnell in her book "The Deaf Child" named, very aptly, the first year of life as "the readiness to hear period" and the second year as "the readiness to speak stage".

Therefore, in general, the purpose of the Demonstration Home Program may be described as a service to aid in the early detection of auditory disorders, and to help the child, by means of parent training, to develop communication skills, through the emphasis upon the development of comprehension and language at the optimum time for the facility for hearing. The program has essentially three phases, but we are flexible within these phases, as it can be seen that the age at which a child is referred to the program can affect the service offered. For example, the parent of a child of 2½ years may need not only the Demonstration Home Instruction, but the child may be ready for auditory training and for preparation for amplification orientation to hearing aid and more specific language development therapy.

1. The first stage is evaluative:

A child may be referred initially to the Hearing and Speech Center of Rochester Inc. for audiological evaluation by the family physician, pediatrician, otologist or other agencies in the community. It is recognized that there are many children who fail to respond to sound for reasons other than a defect in the auditory mechanism. Therefore it is important to rule out the presence or absence of any ear pathology that may be contributing to the child's failure to respond to sound. An examination by an otologist is required for all children who are enrolled in the program. The otologist's diagnosis and recommendations are necessary for the hearing and evaluation and for ear mold impressions. At the time of the initial evaluation the audiologist (myself) may feel that other examinations are necessary in order to fully evaluate the child's communication disorder and recommendations will be made to the referring doctor for possible neurological, psychometric or other specialty services. In the case of the multiply handicapped child there may be many specialty services required before the ultimate educational plans can be made. Therefore it can be seen that the program also serves as an important central point for the early detection of communication disorders which may be due to factors other than or superimposed upon a peripheral loss and for the appropriate referrals to evaluation and special education programs that are in existence in the community. In view of the multiple handicaps associated with the rubella syndrome it was anticipated that there would be some children who present auditory and communication disorders along with other physical problems. I think the figures that I will now present will be of interest to you.

We now have 53 children enrolled in the program. The youngest is 5 months old, the oldest 4.7 years.

Forty-six of the fifty-three children are deaf or deaf with multiple handicaps. A questionable number of the 53 fall into the vague classification of "communication disorders' category. 19 of the deaf or deaf multiply handicapped are "rubella" children, eleven of this group being a result of the 1964 epidemic. 34 children are deaf with additional handicaps. 11 are deaf with multiple handicaps. 8 have communication disorders.

The distribution according to etiology is as follows:

		Deaf	Deaf Multiply Handicapped
Rubella	19	12	6 (4 deaf with cerebral palsy 2 deaf with visual & cardiac)
Meningitis	1	1	-
Hereditary	6	6	-
Sudden Loss due to influenza Type B at 18 mos.	1	1	-
Unknown etiology	15	11	4 (2 deaf with cerebral palsy 1 deaf with emotional problems 1 deaf CNS dysfunction)
History of deficiency of blood platelets	1	1	
Prematurity	3	2	

2. Second Phase -- Parent Instruction in the Demonstration Home.

The Demonstration Home as stated is located at the Rochester School for the Deaf. One recognizes that the most important factorsin a young child's life are his family and home. In the Demonstration Home we endeavour to help the parents to make the effort to create in their own home environment a setting in which spoken language is a natural part of the child's life. The parents are shown how to utilize the familiar every day repetitious situations to help their child to see the relationship between the experiences, actions and events of his world associated meaningfully with the spoken word. The parents are helped to see the development of language through their child's stages of initial awareness, followed by the recognition of the spoken word, in order for the child to be able to progress to the usage stage. In order that the parent instruction be as realistic as possible, the teacher endeavours to make one visit to the home of each family. It is important to see how the family functions as a unit and if the home situation, family attitudes,may have to be changed in order to meet the needs of the hearing impaired child. Attempts are made to include all the family in the counselling but this is not always successful. At this point I would like to mention that all of us who are concerned with the parents of very young children with auditory disorders cannot fail to be aware of the tremendous grief of the parents. Through our experience we come to know and recognize this grief which may manifest itself in many ways. Sometimes we see very vividly the rejection of the parent resulting in failure to give the child the love and understanding he so badly needs. We may see the parents refusing to accept their child's deafness, the medical diagnosis, and we witness their constant search for cures and eagerness to clutch at elusive straws. Then again in their final acceptance we may see pity which is often followed by an over protective attitude thus thwarting not only their child's emotional but his physical development. It is a time when the parents have so many fears and it is especially at this time that the relationship between the teacher, professional person who is carrying out counselling in parent instruction, becomes a private and personal one. Therefore at this state an atmosphere of privacy should be afforded to the parents and unless there are facilities for observation, visitors should be discouraged.

Our philosophy is not rigid with regard to parent participation. We try to give supportive help through a difficult period. Parents who fail to attend are not dropped from the program. We know that these children are going to need help and we leave the door open. A letter is usually sent to the parent saying that we are sorry that circumstances prevented them from keeping their appointments and we will be pleased if they will contact us for future appointments when they feel that they can make arrangements. If a parent works to support the family we do not mind if the grandmother, relative or baby sitter comes to the session as we feel that the child is being helped and will benefit by the instruction given to the person that he is with most of the time. Throughout the program we are concerned with the early training of residual hearing. I would like to mention some of the objectives in early training of residual hearing through the use of amplification and auditory training techniques as soon as the otological diagnosis and approval have been received. The goals of auditory training of residual hearing in the early years may be considered as follows:

a) To develop in the children awareness of the auditory sense. Even though the auditory patterns received by the child may not be perfect, the auditory sensations are important for the development of expressive language -- speech, for the child to experience some sensations of contact with his environment and to enable him to make the maximum use of residual hearing.

b) To bring about an awareness in the child of his own vocalizations, through the auditory channel and the feedback system of the voice-to-ear link.

c) To stimulate the auditory pathways at the optimum time for the learning and hearing processes to take place.

3. The third phase of the program -- consists of a transitional period in a clinical setting, namely, the Hearing and Speech Center of Rochester, that builds upon the foundation established in the Demonstration Home Program. Further auditory training, development of speech reading skills, language development therapy is available as well as the opportunity for socialization experiences in a small group situation to prepare the child for the pre-school program at Rochester School for the Deaf or other community facilities. In this way the parent-child separation is gradually brought about before the child enters pre-school and the children adjust more readily to the new setting when they are ready for their regular program. This has been requested by the teachers in the regular pre-school program.

Finally I would like to mention a fourth aspect of the program and that is the Parents Information Series. One of our objectives in the program is to help the parents to be as informed as possible with regard to all the implications of a hearing impairment or communication disorder. A series of evening lectures are given over an 8 week period. The speakers involved are an otologist, audiologist, psychologist, psychiatrist, pediatric neurologist, educator, vocational guidance counsellor.

Topics are:

1. Otologist --------- Hearing Problems in Children: Causes, diagnosis & management

2. Educator Dem. Home Teacher --------- Methods of Teaching - Goals of the Demonstration Home Program.

3. Psychologist ---------- Development of perceptual and cognitive processes in deaf children

4. Audiologist ---------- Audiological evaluation and management of young hearing impaired children. Auditory training of residual hearing

5. Audiologist ---------- Hearing Aids. Evaluation, fitting, care and use of hearing aids

6. Pediatric Neurologist --------- Learning Disabilities in Hearing impaired children and those with communication disorders

7. Psychiatrist --------- The effect of the hearing impaired child upon the family

8. Vocational Güidance Counsellor --------- What of the future?

9. Parents Discussion Panel ------ Experiences in Home and Neighborhood.

Considering the bad weather and the bus strike the attendance has been good. *Many of our parents live a long way out of Rochester.*

In order to try to project the need for special education in September 1968, I analized the 43 deaf and deaf with multiple-handicaps group of children according to age. As the pre-school program at Rochester School for the Deaf starts at the age of 3 years,I studied the children who will be 3 years of age or over in 1968. The results indicated that by September 1968 twenty-seven deaf children will be ready for pre-school placement at the Rochester School for the Deaf. There were also 10 multiply handicapped deaf children who will be 3 years of age and over by September 1968. Six of these children have cerebral palsy in addition to their deafness. Two have severe mental retardation, visual and heart defects. Two children are severely retarded and have central nervous system dysfunction.

		Deaf	Deaf M.H.
Rubella	17	10 ready by 9/68	6 (3 yrs + in 9/68)
Unknown etiology	12	9 " " "	3 "
Prematurity	3	2 " " "	1 "
Hereditary	3	3 " " "	-
Deficiency of blood platelets	1	1 " " "	-
Meningitis	1	1 " " "	-
Total	37	27	10 Deaf & M/H 3yrs + in 9/68

Therefore it can be seen that the Rochester School for the Deaf is faced with having to make provisions for 27 children in an already full pre-school program and that there are 10 deaf children with additional handicaps who will be 3 years of age or older by September 1968.

The staff involved in the program at this time consist of the following:

1. An Audiologist (myself) who also acts as Program Coordinator and also participates in the audiological services to both children and adults in the regular case load of the Hearing & Speech Center. (Since we lost the other Audiologist at the Center and have been unable to get a replacement life has become somewhat hectic - to say the least!)

2. A teacher, Miss Warchol, who works full time in the Demonstration Home. Miss Warchol worked for 3 years in the regular pre-school program and her academic background is in Child Development & Nursery school teaching.

3. The part-time services of the Rochester School for the Deaf School Psychologist, Mrs. Marian Webster.

4. The part-time services, three mornings a week of a Speech Pathologist, Mrs. Judy Rau, who works at the center seeing the children during the traditional stage.

The children are all seen once a week for a session of one hour's duration. 22 children and parents are currently being seen in the Demonstration Home. 30 children are being followed at the Hearing & Speech Center either by Mrs. Rau or myself.

EVALUATION SCALES

As the parents have the responsibility to provide an optimal environment for the child's development during the time preceding enrollment in a formal school program,our rating scales so far have been in the nature of subjective evaluation by the teacher, of the child's general development, language development, parental attitudes and the parental capacity to utilize demonstrated teaching techniques. However as there are no standardized developmental norms for deaf children,one can understand that the ratings are based upon past experience of the teacher and comparisons among the children in the program. As children joined the program at different times,the contacts per child and parent and child varied considerably. The questions therefore related to the child, the environment and the parents, and were last conducted in August of 1967 by Mrs. Webster, Psychologist. At that time 39 families were evaluated, having had 3 or more contacts with the program. The results of the study reported by Mrs. Webster indicated that the teachers felt that there was improvement in the group in all areas but there were individual children and individual parents (not necessarily related) who made little or no progress. As the population we have is unselected and the children come from all walks of life,it may be anticipated that there will be varying degrees of response from both parent and child.

At the same time, questionaires were sent to the parents and they were requested to return them. The parents did not have to sign them. Questions were:

1. What suggestions made by the teacher have you been able to carry out?
2. What changes have you noticed in your child since the program started?
3. How has your outlook toward your child's problem changed?
4. Why do you think the program should be continued?

The responses were very *interesting, informative and enlightening*. One parent simply wrote "Yes" to everything!

Another parent wrote: (in answer to question #4)

"(There is no possible reason for a program of this nature to be discontinued -- is there? Any child with any kind of handicap needs extra help and the earlier he gets it during his maturation process the better he is going to be able to get out into the speaking world. Why should this program be stopped?"

In order to determine if participation in the project helps the child in future learning situations, the children in the program who enter Rochester School for the Deaf will be compared with other children entering the school who have not had the benefit of early training and parent counselling. All of the pre-school children at Rochester School for the Deaf will be rated on a scale covering all areas of language development, social growth, emotional and intellectual abilities, parent ratings, and be matched in pairs equating as nearly as possible intelligence, degree of hearing loss, sex, age, education of parents and general home environment. Subsequent evaluations of these same pairs of children should yield data regarding the long range value of early training.

At the end of each 3 month period a progress report is done on every child and thus covers the number of visits during a specific period: time period, goals, present status, observations of behavior, motor and social skills, and language development. It is planned to use more fully specific language scales such as the Watson-Pickles Scale with its various stages of receptive and expressive language development.

For Example -- Stage I Child gives little or no attention to speech.

Stage II Has begun to pay purposeful attention to speech.

And on the expressive side of the scale:

Stage I Child does not vocalize.

Stage II Vocalizes to a limited extent.

Stage III Vocalizes freely and purposefully, perhaps imitates speech.

Time does not allow me to go on in great length but this does perhaps give you an idea of our evaluation of the child's communication skills. I have not discussed in more detail the children with the waste paper basket identification term "communication disorders" but I feel that we can discuss this more fully when we get together during our workshops.

I also did not bring along a lot of statistical materials as we do not have too much at this time, being in the throes, so to speak, of organizing our program and deciding upon evaluative scales.

Finally in summary I would like to say that I hope I have interested you in a program which was set up to try to meet a pressing community problem.

In setting up such a program I cannot stress too strongly that the personnel in the program should not only have a broad knowledge of audiology, auditory disorders, education of the hearing impaired child, hearing aids, but also have the ability to give the parents the supportive help, counselling and guidance that they so badly need at a critical time.

Thank you for allowing me to present this paper and I apologize for having to rush through and skip quite a bit because of the time factor.

Mary Wood Whitehurst is Audiologist and consultant to the nursery education program at St. Joseph's School for the Deaf.

Miss Whitehurst: The children I am reporting on have at least one thing in common ---- their age. For the first time in its long history of service to the hearing-impaired, St. Joseph's School for the Deaf is privileged to admit in large numbers children between the ages of two and a half and three and a half. This year we have 60 in this age group -- a large percentage of whom are rubella babies. For the most part these children have been referred by local hospital Hearing and Speech Centers where initial diagnostic evaluations have been completed or are currently in process. The reported impressions of the clinic staff include: (a) sensori-neural impairments, (b) central language disorders, or (c) a combination of both with an occasional suspicion of some other factor present. To arrive at a definitive opinion on so young a child is difficult, and understandably most clinic reports indicate inconclusive findings. When the child is finally enrolled in school we do everything possible to supply the clinic with supplemental information gradually acquired as a result of daily observation in the classroom and auditory testing done in familiar surroundings with teacher or aide present.

I have been asked to explore with you the importance of an early auditory training program for these babies, its significance to the future education of the children, and some of the components of such a program.

Before embarking on an infant project such as the one at St. Joseph's, there should be agreement on certain educational philosophies and administrative policies. For example, is this to be a nursery program in the broadest sense of the term, or a tutorial program along nursery lines? We have chosen the latter because the children are with us only 2½ hours a day, and within this short period it would not be possible to have a full nursery program in operation and at the same time give due emphasis to developing communication skills.

Another important decision to make is in regard to classification and grouping. Should there be heterogeneous grouping or an attempt made to classify according to speech and language abilities -- maintaining at all times a flexible policy whereby children may be moved from one class to another in light of continuous and on-going findings? The latter arrangement unquestionably offers greater possibilities for developing speech and language.

Classifications are a logical outgrowth of audiological assessments, classroom observations, and psychological testing. From my vantage point, here are some of the questions that should be considered in regard to classification:

1. What is the child's auditory threshold for speech detection?

2. What is the pure tone threshold (if obtainable)?

3. Does the hearing aid compensate for the degree of loss?

4. Is the child's receptive language development in keeping with his hearing threshold?

5. Is speech developing in accordance with the child's hearing threshold?

6. Is the problem predominantly sensori-neural or language disorder?

These questions must be answered in order to group the children intelligently, or indeed to teach them at all.

The last planning consideration is the amount of time that can be allocated for individual instruction in communication skills --- for unless there is a generous time allotment for these all-important subjects, the project will become just another nursery program for deaf babies. Why do I lay such stress on individual and intensive training? Individual because you will seldom find two children that have the same ability for developing hearing, speech, and language; intensive because the educational lag even at 2½ years has already set in as a result of unused hearing and unstimulated speech, and the lag increases with each year and each month unless drastic measures are taken to stop it. Even with amplification these children will never hear as normal babies do. Opportunities,therefore, must be sought to provide meaningful auditory stimulation so that speech in turn will begin to appear. First hearing, then the beginnings of speech. This is the normal process of events. But providing auditory stimulation alone is not enough. Just being surrounded with meaningless, undifferentiated sounds all day is not the answer. Unless the sounds are presented in a systematic way, are carefully explored, and visually illustrated, the child will reject amplification because of the utter confusion it generates. In order for him to enjoy amplification and profit from its use, he must be taught to understand what he hears. And so a logical auditory training program should evolve.

Where do we begin? First let's consider what we have to work with --- the communication potentials of these children.

1. We have some babies who reportedly have never spoken, and in turn, do not understand the spoken word of others. They may not even understand simple gesture language.

2. There are those who have a moderate-severe or truly severe hearing impairment, but nevertheless have educable residual hearing.

3. Opposed to this group are some in the language disorder department with seemingly normal auditory thresholds, but

their speech development ranges all the way from nothing to a fair degree. When present, their imitative speech is frequently good; speech in unstructured situations usually better than in structured ones.

4. There are those who come with their own hearing aids or with loaner aids and some initial auditory training. A large number, however, have not been fitted with aids, for one reason or another, and have not been part of a clinic training program.

With this hodge-podge of auditory, speech and language abilities and disabilities you can see the necessity for attacking the problem quickly and with vigor.

And here I want to address my remarks directly to the classroom teacher who plays the really important role in the early identification and education of aurally handicapped children. In our infant and nursery school program at St. Joseph's the teachers are not only my right arm, but my left as well. It is they who condition and ready the children for all types of auditory testing whether it be testing for speech detection threshold, speech reception threshold, or pure tone. Their daily lessons with individual children follow a carefully graded plan which includes auditory conditioning techniques for all kinds of testing. They notify us when each child is ready and specify the type of test he is ready for. As a result of their cooperation and diligent work we have obtained auditory responses from these infants that I never before believed possible. The teachers also keep us informed through monthly reports on other aspects of the child's development. We meet in groups frequently to discuss common problems and auditory training procedures. We also have individual conferences on individual children and with the help of the department supervisors try to pool our knowledge in working out solutions to some of their learning problems. And believe me, there are problems. For those who are not yet talking, we must find ways of motivating them to vocalize before demanding words from them. For those who have severe learning disabilities the visual and other modalities must be explored and utilized along with the auditory until language begins to develop. For those who reject hearing aids we must find out why. For those we think need aids and don't yet have them, we must experiment with loaners and then send our report to the child's clinic. For those who give erratic auditory responses ("Now I hear; now I don't") slow auditory perceptual training is necessary. And for that blessed minority with the single problem of hearing impairment, we must plan individual programs that will accelerate their speech and language development in proportion to their abilities.

The pre-requisite to any auditory training program is an attentive listening attitude. The young child must first be taught to attend to auditory stimuli - for until he can do just this, nothing else can be attempted. This training can and should be done in both a casual and specific way. If following the general or casual procedure, you would want to acquaint him with familiar environmental sounds by calling his attention to:

the sound of the human voice (a quiet, intimate tone), the sound of water running, the ringing of the telephone and doorbell, a knock on the door, the slamming of a door or window, a dog's bark, an airplane overhead, a car horn, music, and dozens of other things. Take him to the source of these noises unaccompanied by the clatter of surrounding noises. Let him see what has caused the noise, and ever afterward call his attention to it when the sound recurs.

In a more specific manner you would present noise-makers to him -- one at a time, gradually introducing many of them.

1. Performance upon Hearing Auditory Stimulus

   With the use of his eyes and his ears you would teach him a performance technique whereby he puts a ring on a stick, or drops a block into a plastic bowl (or other performing devices) each time you strike a specific instrument. Then when he understands what is expected of him and can perform with visual-hearing, have him do the same thing (without visual clues) while you make the sound behind him.

2. Start-Stop Game

   Play a musical game, such as letting the child clap softly or beat softly on a plastic drum while a record plays. When the music stops, he stops playing; when the music starts, he starts playing again.

Continue this type of training until the children acquire the art of listening. Then when each individual child is ready, let him progress to discrimination of these gross sounds -- two at a time first, then three or even four, if he is capable. Teach him to discriminate between such things as a drum and a bell; or a drum and whistle; a bell and a hammer. And again as before, as soon as he can discriminate with visual-hearing, move behind him and withdraw visual clues. Avoid overdrill as well as boring observation of other's performance.

When he has acquired these two basic learning steps (listening and discrimination) in their relation to environmental sounds and to selected gross sounds, he should be ready to apply these learning steps to words. (But some are not going to be ready.) Objects for word discrimination should be most carefully chosen, for indeed much of the child's failure to develop auditory discrimination stems from poor word discrimination choices on the part of the instructor. I would offer these criteria for your selection of objects:

Choose words: (a) Easy to hear; (b) Easy to lipread; (c) Easy to lipread; (c) Easy to say; and of course choose objects of interest to a child of this age.

How are these word-objects presented? By the most direct method possible, which for everyone (both normally hearing and hearing-impaired) is by visual-hearing. This is the easy, natural and accepted way to learn. In the case of the hearing-impaired child the usually stronger modality (the visual) must reinforce the weaker one (the auditory). This combination of strong and weak facilitates learning. But (and this is a big BUT) as soon as the word, phrase or whatever is being presented is learned, then the stronger modality should be withdrawn and the weaker one encouraged to go it alone. This, and this only, is auditory training -- the most important factor in developing good speech and independent hearing. The better we hear, the better we speak. It's as simple as that, if there are no other complicating factors. The aural-oral approach makes children well-adjusted to the world in which they must live and work because it produces fluent speech and easy comprehension -- in short, comfortable communication. And this, if we are honest, is the key to social adjustment.

I don't for a moment suggest that all infants just because they are getting an early start will be able to develop speech and language easily. Our pupil population today represents far too many multiply-handicapped children to expect Utopia. But there are those who are not multiply-handicapped, those with good residual hearing (in spite of the degree of severity), those with good potential for developing speech and language through the auditory channel, who deserve our best habilitation efforts. It is unfair to let them become submerged and engulfed in an atmosphere geared to teaching the profoundly deaf, or to employ only techniques used in teaching the profoundly deaf. These easily educable children should be treated and taught as severely hard of hearing children -- not as deaf -- and the methods are not entirely the same. The severely deaf of necessity must rely largely on the stronger visual modality, utilizing the auditory as a supplemental "assist". The severely hard of hearing child should, on the other hand, rely more heavily on the auditory with the visual playing a strong supplemental role. But because of our teaching emphases in schools for the deaf, this latter approach is not used as often as it should be -- with the result that we force these severely hard of hearing children into the deaf category by virtue of our teaching. In short, they have the requisites to develop into well-adjusted hard of hearing youngsters, but far too often, by educational methods employed, they are denied this opportunity. My plea to you today is to find these children early, treat them differently, and let them realize their full potential.

LANGUAGE DISORDERS IN PRE-SCHOOL CHILDREN

Doris J. Johnson
Institute for Language Disorders
Northwestern University

It is a pleasure to be with you this morning to discuss the needs of pre-school children who have language and learning disabilities. Although we do not presume to have all the answers for dealing with some of these very complex and difficult children in our schools and clinics, I am happy to share some of our experiences and thoughts with you.

I would like to commend the program committee for focusing attention on the pre-school child. While we are concerned with learning problems of children of all ages, including adolescents, I am convinced that we must begin work with the pre-schooler as soon as his problems can be identified. Too often families are told to "wait and see". As a result the child failed to acquire language and many valuable months or years of education were lost.

As you know, there are many reasons for language and learning delays. There are a number of factors which could interfere with the child's acquisition of the spoken word. While some contend that etiology is of little importance, it is our feeling that the reasons for the language delay be explored since the educational modifications will vary with the deficit. This is not to suggest that language itself is different, nor that all techniques are unique to each type of problem; rather, it is the overall psycho-educational dynamics that are modified according to the nature of the language delay. The fact that a child has a sensory impairment, limited intellectual capacity, severe motor handicap, limited experience, etc. does not suggest that he is incapable of learning, but it gives us some indication as to the modification of educational experiences. If a child fails to understand or use spoken language at the expected time, we become concerned; we begin to look for reasons. We need to know why he is not talking. The educational dynamics for the child who fails to talk because he cannot hear are substantially different from those for a child who hears but does not comprehend what he hears. These in turn are different from the procedures used for a child who hears but voluntarily shuts out sounds because of an emotional trauma. Although the ultimate goal is the same, the ways whereby the child learns will vary.

Briefly, I would like to review some of the major factors that could interfere with language and learning. These include the following:

A. Peripheral nervous system involvement
(reduction of auditory or visual acuity)

B. Mental retardation

C. Emotional disturbance

D. Experiential, cultural, or educational deprivation

E. Severe motor handicaps

F. Health or other physical problems (metabolic, etc.)

G. Minimal central nervous system dysfunction

Today, my emphasis is on the problems of the children in this last group -- children with language and learning disorders of the psychoneurological type. The group consists of youngsters who do not have a sensory impairment, do not have primary mental retardation or emotional disturbance. They have had adequate language experiences in the environment (i.e. they have not been deprived of the normal language stimulation). They do not have severe motor handicaps which prevent them from speaking, albeit there may be minor problems of incoordination or balance. Despite these integrities they have been unable to learn language.

The causes cannot always be specifically designated, but in our studies of children, we do an intensive case study to determine whether there were unusual events that occurred in the prenatal, paranatal, or postnatal periods of the child's life. Infections, illnesses, or traumas in the pregnant mother and in the infant are investigated. Genetic factors also are explored. There is increasing evidence that indicates some language and learning disabilities are due to hereditary factors.

Although we see a significant number of children who have only a language or learning disability of the psychoneurological type, we also see a large number who have multiple handicaps. Many of you cope daily with the child who has a hearing impairment with additional language or learning involvements. In our work we have seen blind aphasics. These are children, who, in addition to being unable to see, cannot interpret the spoken or tactual symbols. Others have deafness plus mental retardation or an emotional disturbance. Some have severe motor handicaps in addition to sensory impairments. My discussion on specific language disorders is not meant to suggest that a child must be "either-or", for he can be both or all. Nevertheless, in our study of multiply handicapped children we must be prepared to "tease out" areas of behavior that might be considered in the educational planning. The designation of a diagnostic entity does not mean that others are no longer present, nor that a person can have only one disability. However, it does mean that all problems must be considered when outlining educational procedures.

Terms used to describe children with language disorders are numerous. Typically we hear the words "aphasia", "agnosia", "congenital auditory imperception", "apraxia", etc. Not infrequently these labels have limited our communication on the subject because the same term has been used to designate various groups of children. Although I will use some of these terms today I also will try to clarify the type of problem through a description of symptoms. Then, hopefully, whether you use the same or different labels, we will be referring to a specific type of child with a language deficit.

Because of the complexity of the human brain and the complexity of our symbol systems, it is evident that even a minor learning disturbance could interfere with language development. Remediation begins with the identification of the specific deficit, and identification begins with the study of each sub-system in the language process. Today we will discuss some of the areas of behavior to be considered in the evaluation and education of children with language disorders.

We all are aware of the fact that language is rooted in experience --- that experience precedes the symbol --- and that deprivation or alteration of experience will interfere with the acquisition of language. Accepting this premise, then one of the first considerations when dealing with neurologically impaired children is to determine whether they are integrating nonverbal experience normally. Frequently such children have a disturbance in perception and nonverbal functions which will modify language behavior. Thus we need to know whether the child perceives sensory impressions in the normal fashion and whether he integrates these impressions with each other. Can he relate the sound of mother's voice with her face, the taste of cereal with its appearance or texture, the picture of a dog with a barking sound? If he does not organize perceptions properly there can be a subsequent effect on language.

Today I would like to discuss three problems in particular that interfere with language acquisition and use. The first of these can best be regarded as a disturbance in attention. Certain types of neurological involvements disrupt the mechanisms for attention which result in distractibility, disinhibition and perseveration. The individual with these problems fails to select the proper information from the environment, or is unable to maintain attention, or (as in the case of perseveration), he maintains attention for undue periods of time because he cannot shift voluntarily. Boys and girls with these problems often are thought to have disorders of comprehension because they do not respond successfully to verbal instructions or series of commands. Yet, this same child, when relieved of extraneous stimuli, responds appropriately. In these instances it seems as though the information filters through badly, only in bits and pieces rather than the whole. Our first task in identification is to determine whether the child fails to understand or whether he fails to listen --- for the remediation is very different. If the child fails because of distractibility, the emphasis is on attention, not on verbal comprehension. When the problem is one of attention, the environment is structured. The environment and educational experiences are arranged so that the youngster does not have to deal with excessive stimuli which interfere with his learning. The suggestions of Cruickshank, et al; of Strauss and Lehtinen, and of Kalisky are particularly useful. Kalisky suggests that in order to bring order into the chaotic world of the child we must structure temporally (short periods for work), spatially (control proximity), contextually (outline daily activities on the board), emotionally (set limits), and socially (small groups). In addition, we have found certain tape recorded exercises to be beneficial. The tapes are designed to increase attention. For example, a child might be given a series of pictures on a page, and then listens to directions (usually through head phones for purposes of structure). He hears, "Listen --- pick up your pencil ----- wait ----- mark the house", etc. By increasing the length of the pause and the length of the directions, we have found many children can improve in their listening behavior. With enough successful experiences in the structured setting they ultimately learn to take group instructions from the classroom teacher.

A second nonlanguage problem that often interferes with a child's verbal response as well as his conceptual development pertains to visual perception. The child who misinterprets what he sees may give an abnormal verbal response. What he says is incorrect because of faulty visual perception. For example, a six-year old called the rural mailbox a piece of toast because he perceived only the door and did not relate the rest of the lines in the picture to the whole object. In another instance, a first grader looked at a picture of a boy painting by an easel and said, "The boy is standing in the water". The child was confused by the fact that there was no boundary to the blue rug on the floor and misinterpreted the sketchy blue lines to be water.

Whenever we attempt to evaluate either receptive or expressive language of children, we need to be aware of the fact that failures could be due either to lack of knowledge of the spoken word, or misinterpretation of the stimulus. On certain picture vocabulary tests which involve black and white pictures, we have observed that many boys and girls failed because of faulty visual perception, not because of verbal comprehension.

Remediation for these children does not begin with language, but rather with the stabilization and interpretation of nonverbal experiences. Every attempt is made to help them organize their perceptions. In the initial stages of training we have found it necessary to begin with very clear, realistic pictures. Later black and white line drawings are introduced. Various techniques are used to help the youngster deal with part-whole relationships and to recognize objects even though they are pictured only in part.

A third, very interesting and often unidentified problem of the nonverbal type relates to the integration of meaningful nonverbal experience, not merely to attention or perception. Children with a disturbance of this type may recognize and perceive individual objects or experiences properly, but they fail to comprehend relationships which are based on meaning. Hence, their descriptions of pictures or events are quite erroneous although vocabulary, syntax and articulation may be quite good. To illustrate, we gave several children pictures and asked them to tell a story or to tell what is happening. The pictures were graded according to simplicity or complexity of the subject matter. At the lowest level we selected a simple picture of a boy eating soup; at the highest level a humourous and rather abstract magazine cover. Most of the children grasped the meaning of the simplest picture and responded with a sentence such as "I see a boy eating soup" or "This boy likes chicken noodle soup". However, as the pictures increased in difficulty, that is, when the inter-relationships within the pictures became more complex we saw many distortions in the responses of those children whose problems were of the nonverbal type. For example, one of the pictures showed a girl and mother coming off a train; the child is running to greet her daddy with open arms and a very happy face. The response from a ten-year-old with serious visual, nonverbal problems said, "This little girl is unhappy because her mother is going away". This boy could have identified each object in the picture. In addition, his syntax was perfect, but because he failed to note that the mother was coming off the train, and that the girl's face was one of happiness, he totally misinterpreted what he saw. Disorders of this type will affect a child's ability to tell stories about reading readiness sequence pictures, film strips, and perhaps even past experience. Only when a child is able to grasp certain relationships between objects is he able to use the language signifying this relationship.

Problems of the nonverbal type often can be identified by asking the child to arrange pictures in a meaningful sequence, noting whether he perceives, from the events in each, which one should precede or follow the other. Children whose problems are primarily verbal can arrange the pictures to tell a story, but they cannot verbalize. Those with nonverbal problems arrange the pictures improperly.

Nonverbal problems often are noted in the play and behavior of young children. They fail to integrate toys into meaningful situations. For example, the little boy has no idea how to arrange the trucks and cars to make a pretend gas station, and the little girl may randomly place toys in a doll house without any meaningful organization.

Remediation does not begin with verbalization, but rather with helping the child integrate experience in a meaningful manner, and to see how things are related. We are interested in helping the child to schematize his looking -- to scan the environment, pictures, or objects and make decisions about which things go together. The purpose is not to teach him to respond to everything because this would result in utter chaos; but we try to teach him to scan, to evaluate, and decide which factors are related. For example, an eight-year-old was given a series of four pictures to arrange in order so they would tell a story. In the first picture children were building a sand castle and a speed boat was approaching in the background. The second picture showed the boat moving closer to the children and the waves coming closer to the shore. In the third the boat had passed by and the castle was destroyed. The objective was to help the girl realize that the boat in the background and the waves in the water were important to the main event in the picture. In a very real sense we try to lead children's looking so that they can more accurately relate to their own environments. Disturbances of this type will affect language, as well as the many school subjects and activities in which the student must rely on careful visual inspection, analysis and interpretation. They also affect the play, the social maturity, and interpersonal relationships of children. It is not unusual to spend several lessons on the interpretation of facial expressions, gesture, or nonverbal movements. Work with charades and role playing has been most beneficial.

Now as we begin the discussion of specific language problems I would like to indicate that the following are only the major disturbances; there are others as well as many combinations of problems which will affect the way in which we outline remediation.

Receptive Problems

The first of the auditory verbal disturbances might be classified as a disorder of auditory perception. Children with this problem are unable to differentiate one sound from another. At the severest level, a child may be unable to distinguish even gross environmental sounds such as the telephone and the bark of the dog. The child fails to respond consistently and is often thought to be deaf. Yet his responses are different from those of the hearing impaired child because he occasionally reacts to very soft sounds but not to loud ones. A great deal depends upon the child's familiarity with the sound and with the amount of other auditory stimulation in the environment. Sometimes these children are called auditory agnosics. The word agnosia literally means "not to know", and the child, in this instance, does not know what sounds mean. Obviously gross auditory perceptual disturbances preclude normal acquisition of language, but minor disturbances may affect only speech, articulation, reading, or spelling. The effect on these other areas of learning seems to relate to other learning integrities or deficits. Certain children will improve in auditory perceptual skills when they begin to read; the printed symbol seems to stabilize the auditory. In contrast, others are confused because they cannot take information in through both sensory channels simultaneously. Stated differently, one must examine both the deficit and integrities to see the overall effect of the disturbance on language and learning.

The auditory agnosic, the one with severe auditory perceptual disturbance, is one of the most difficult children we see in schools and clinics. Many require long and intensive periods of diagnostic therapy to make a determination about the auditory acuity and the most effective means for education. Although the goal is to help the child understand what he hears, occasionally one must look to other sensory channels for teaching symbols. Nevertheless, every attempt is made to help the child differentiate sounds, and ultimately to understand the spoken word. Since we have discussed the procedures in detail elsewhere (Johnson and Myklebust 1967), they are presented in summary only at this time.

In some of the severest cases we have begun training with a single sound and have worked almost at the level of a conditioned response. For example, a loud bell or drum is used to represent mealtime. One parent rings the bell near the table, and the other parent goes to the child with considerable animation, cupping the ear, in attempt to teach the child to listen. Together they go to the table, look at and listen to the bell. The same procedures are followed until the child, on his own, sorts out this particular sound from others in the environment, and goes to the table when he hears the bell. When he begins to respond consistently, other sounds are introduced such as the car horn, the telephone, or a knock on the door. Timing is very critical; the child must closely associate the object with the sound or he may fail to learn. When new sounds are introduced, the environment should be reasonably quiet so the sorting process is not so difficult. Many sound games are used to improve the awareness of sound, localization, and discrimination. Emphasis is given to various dimensions of auditory perception including rhythm, inflection, pitch, and volume. Through structured, clinical teaching many of these children can be taught to differentiate sounds and associate them with the proper experience. A basic question to be asked by the clinical teacher is, "How can I help the child perceive the sounds and words properly?" The goal is not just to raise the assets and circumvent the disability, but rather to use the integrities as a means of raising the deficits. When a child has an auditory perceptual problem we need to ask, "What other sensory channels can I use to help him? What should be the nature and balance of the input stimulation?" No single set of procedures will be effective for all children because of the variation in the deficit-integrity ratio and because of multiple involvements that might be present. In an effort to improve auditory perception, we might select one or more of the following "teaching circuits". First, there is the possibility of improving a child's performance by using intrasensory stimulation, by asking him to close his eyes during certain periods of instruction. Many boys and girls are confused when they are asked to look and listen. The systems become "overloaded". One six-year-old was able to satisfactorially complete a hearing test only when his eyes were closed. This same child performed better on auditory discrimination tasks if he closed his eyes while the teacher rang the bell or beat the drum. Often one can observe a child automatically turn his head from some over-stimulating activity; he does this so he can listen.

A second means of helping children is to intensify the stimulus, to make it louder and to reduce all background sounds. This does not mean that the child should be given a hearing aid (unless there is a loss), but for certain periods of instruction, when new sounds or words are introduced, a binaural portable amplifier can be used. The slight increase of volume and the head sets seem to structure the sound.

In other instances the teacher will make extensive use of visual cues; these may be facial expressions, movements, etc. or, with some of the older children, printed words. The school age child who is unable to distinguish the differences in the words "witch" and "wish" might be aided by seeing them. Still others will be helped by a visual-movement pattern. They learn to watch the tongue, lips, and oral position of the speaker. In these instances, the goal is not to teach the child to speech read, but temporarily to supplement the auditory with visual patterns. I would remind you that the goal is to improve auditory perception. In attempting to achieve this objective one cannot work just on assets for we encourage overcompensating. One cannot work only on deficits, nor can one wait for maturation. Instead, the clinical teacher attempts to find the proper balance of input stimulation which will improve auditory perception.

The next of the auditory verbal disorders pertains to comprehension. It is quite obvious that severe perceptual disorders will interfere with a child's ability to understand, but there are many who can hear, who can listen, and who can differentiate environmental sounds, but they cannot understand words. Some are almost "too good" in auditory perception for they repeat exactly what they hear, mirroring the speaker in echolalic fashion. Yet they fail to comprehend. In the severest cases the children may not understand any words, yet others with mild to moderate receptive language disorders may go unidentified for many years. If there are no additional expressive involvements they may use language at the level of their understanding. In general, this group is composed of children who are better visually than auditorially. They show discrepancies between verbal and performance abilities on intelligence tests, sometimes as much as twenty to forty points better on the performance side. Many are quite creative and good in art work. Some rely on gesture and facial cues in order to understand the speaker. Some respond only to one or two words of a sentence, failing to grasp the general significance. A number of them withdraw when the language level gets too high, or when the auditory stimulation is more than they can tolerate.

In the identification process we try to determine exactly what the child does or does not comprehend. We need to investigate single word meanings as well as general significance. Furthermore, we need to evaluate his ability to understand various types of verbal units including nouns, verbs, prepositions, and other parts of speech. One of the most important factors to remember in the evaluation of children's receptive language is to select instruments (tests) which involve meaningful verbal input but which do not demand a verbal response. Questions or statements should be worded so the child does not have to speak. Since many youngsters have multiple involvements, it is

58

critical to know whether one must work on some dimension of input, output, or both.

The following remedial principles are suggested for the child with a receptive language disorder (receptive aphasia).

A. Experience precedes the symbol.

Do not expect the child to understand words for which he does not have the experience.

B. Input precedes output.

Until the child understands words, he is not expected to use them. Although he might be able to repeat words, he cannot use them for purposeful communication unless he comprehends.

C. Simultaneity

The teacher should carefully time the symbol (word) with the object or experience. Even a few seconds discrepancy can interfere with a child's understanding.

D. Begin with words that sound different.

Do not start with words in which all begin with the same sound. The process of differentiation and understanding are more difficult.

E. Reduce the language level if necessary.

For some, the teacher must reduce the quantity of language she uses. Children become confused by excessive verbalizations and may even cover their ears. In other instances, it is not the quantity of language, but the level of difficulty of the words. Here, the teacher would need to reduce the level by selecting a synonym or parenthetical expression to help the student comprehend.

F. Wait for delayed responses.

Occasionally children will respond correctly if they are given more time. They seem to have a slow rate of auditory perception or a slow rate of assimilation. In these instances the teacher should allow periods of quiet, giving the child time to think and respond.

G. Follow a language development approach.

As much as possible, we try to follow the normal developmental patterns in the language training. Work begins with the concrete, or the "here and now" and progresses to more abstract language.

The third auditory verbal problem with which we must be prepared to deal is auditory memory span. Many children with language disorders are limited in the amount of information they can remember; consequently they have difficulty taking series of instructions or in comprehending complex commands. These disorders should be differentiated from those in which comprehension of words is affected since the remedial procedures will vary with the deficit. The receptive aphasic needs assistance with word meanings, whereas the one with a memory disorder does not.

In attempting to evaluate the amount of information a child can store we select tasks that involve verbal input but no verbal output. Many tests for memory span require the child to repeat words, numbers or sentences. Often he fails because of output or expressive disorders. Therefore, series of words are presented and the child is asked to point to the pictures in order or series of instructions are given and he is asked to perform.

Throughout the remedial program only meaningful material is used. Very little time is spent on nonsense syllables, digits, etc. Instead, we attempt to simulate activities from the child's home and school life where memory span might be involved.

In the remedial program we try to improve the child's habits of attention. Some have difficulty in readying themselves for tasks. Therefore, words such as "wait --- ready --- listen" are used frequently. The children also are taught how to develop organizational skills to assist them in recalling information. In addition, they are taught to use cues from other sensory modalities to help in remembering.

And three verbal problems presented thus far are related to auditory input. Although these interfere with output we do need to differentiate the disabilities in order to be as specific as possible in the remediation. The next three problems are unique to output. Children with these disorders understand and remember what they hear, but their deficits are in expression. They perform well on nonverbal tests and on verbal tests that do not demand an oral response.

Expressive Problems

The first of the expressive problems is one of auditory retrieval. The children recognize words they hear and they can repeat words, but they cannot use them spontaneously. Their problems are in word finding. Because the children cannot remember what they want to say they may gesture, pantomime or use sound effects in order to communicate. Those with less severe problems may give a substitution, circumlocution, or functional definition. Their language is replete with words such as "whatchamacallit", "stuff", "things like that", etc., because they cannot call up the specifics. Some will develop nonfluencies and a stuttering pattern if they are pressured for an oral response.

In identifying the child with word finding problems we look for a discrepancy between his ability to comprehend, his ability to repeat, and his ability to say words spontaneously. Clinically, questions would begin with "Show me your hat, your shoe, etc." then "Say these words after me, 'shoe', 'hat', etc.", and finally, "What is this?" It is in response to this final question that the child with a retrieval difficulty breaks down.

The major goal of remediation is to facilitate recall and help the child find a means for retrieval. One of the most important principles is to keep the child using words while simultaneously providing cues to recall. An effective technique is the use of multiple choice questions. For example, when the child cannot recall the name of something he wants, the parent or teacher might say, "Do you want the paints or the crayons?" By wording questions in this manner the clinician "feeds in" the auditory stimulation, but also expects a verbal response. It is not enough to merely say, "Do you want the paints?" for in this instance the child only has to nod his head. Sentence completion techniques also are beneficial. For instance, if a youngster is unable to call up the word pencil, the teacher might say, "I write with a ________________". We also have found it beneficial to teach word associations or groups of words in categories. Cues from other sensory channels are used, particularly with older children who have been taught to read. They learn to re-visualize a word in an attempt to re-auditorize it. Throughout the class periods some practice is given on rapid naming of common objects. The teacher should make certain he knows the names of foods, articles of clothing, utensils or objects he might use in gym class, art, music, etc. Parents also are instructed as to how they might help at home through the proper wording of questions.

The next group of children with expressive language problems has a defect primarily in formulation and sentence structure. They cannot learn the syntax of the culture -- the rules for stringing words together. In the severest cases the pupil may be unable to use any sentences. In others they may use sentence fragments. Some omit words, others distort the order of words. Occasionally the language is described as being telegraphic in nature because the children seem to use the language of telegrams, omitting all articles, conjunctions, prepositions, and other words of this type.

Perhaps the most effective means of identifying formulation problems is to ask the child to tell a story about past experiences or a picture. The story is recorded and analyzed for productivity, syntax, and abstractness. Although the Picture Story Language Test (Myklebust) was standardized for written language, it is useful also for studying oral language of children. In addition we also use some sentence repetition tests to determine which constructions the child can give back immediately.

The approach to remediation is similar to the audio-lingual methods used for teaching foreign languages; however, much more structure and repetition is required. By structure we mean a planned presentation of experiences that are coordinated with specific sentence patterns. In order to teach subject-verb agreement, several pictures of the same type are selected which will help the child learn the grammatical construction. For example, pictures with singular subjects and plural subjects would yield constructions such as "The boy is running. The boys are running". "The dog is running. The dogs are running". Experience is timed with the symbol; the child hears an auditory model and is encouraged to repeat the sentence. The purpose is to help him generalize the principles for sentence construction. Very few rules are used with the approach. The primary goal is to develop a natural, spontaneous flow of language.

Visual cues are often necessary in teaching. A simple, but effective technique has been the illustration of the number of words within a sentence by holding up the proper number of fingers. For example, if a child is to try a three word sentence, the teacher holds up a finger for each word. Since many of the boys and girls have auditory memory problems, this additional cue seems to help them.

Pupils who have learned to read and who have syntax problems might be helped by working with the printed form. They visualize the frames into which they can insert words.

The final group of children cannot learn the motor patterns for speaking. Frequently they are called apraxic or dyspraxic. They understand what they hear and know what they want to say but they cannot utter words. In contrast to the child with a severe motor handicap or paralysis, these children have adequate vegetative movements for chewing, sucking, etc. but they cannot direct the tongue, lips and jaw voluntarily. As a result their speech may consist of nothing more than vowel sounds, and they communicate by using gesture or pantomime.

The primary objective in teaching the apraxic is to help him learn the auditory motor patterns for spoken language. In order to accomplish this goal the teacher begins by taking an inventory of the sounds and movements the child can produce on a voluntary level. Then she attempts to make the child aware of the sounds and of the movements of his tongue and lips to produce them. She then tries to help him voluntarily repeat the sounds and use them for purposeful communication. We have found it critical to make the vocalizations symbolic and meaningful as soon as possible. Even though the child's first attempts may not be perfectly articulated, he should be encouraged to use them for purposeful communication. When he uses "uh" for "up" or "ope" for "open" he has the rudimwnts of language. Although we do not encourage incorrect motor patterns, it should be remembered that young children do not articulate words perfectly when they begin to talk; therefore, we should not assume that all first attempts of our youngsters must be correct.

The teacher does not repeat the child's inaccurate productions however; all words are repeated correctly for him.

The procedures for teaching new words will depend not only upon the deficit in auditory-motor functions but on the intact systems. Whereas some children can learn from visual cues (watching the speaker), others may be confused when they must look and listen. Various teaching "routes" or "circuits" are explored to determine which one will be best for the individual. Those who are good visually will be encouraged to watch the speaker's lips -- sometimes without making any sound. After they can imitate the motor pattern, sound is introduced. Children who are exceptionally good in auditory verbal comprehension are given instructions for tongue and lip placement. Some are helped by seeing the printed instructions for placement. (e.g. for the m - "Close your lips and make a sound".) Sounds are blended into meaningful words, not nonsense syllables. Usually the blending can be accomplished most effectively by starting with combinations of vowel and nasal sounds that can be sustained. This would include words such as meat, mommy, no, more, etc. In addition, we try to select words which the child will use daily since he should have ample opportunity to reinforce the motor patterns.

Throughout the language training with all types of children the teacher tries to facilitate the best response possible from the child. This will require thorough knowledge of him, of his problem, of his abilities, and of the nature of the task presented. In essence, there is ongoing programmed instruction. Tasks are presented to children so they do not fail. Questions are neither too difficult nor too easy; they tap abilities, placing just enough stress on the child to learn something which he did not previously know and to perform in a way which was slightly better than before.

By facilitating good response from a child we not only help the language, but strengthen the ego, culminating in the ability and desire to communicate.

REFERENCES

1. Cruichshank, W. et al. A teaching method for brain-injured and hyperactive children. Syracuse: Syracuse University Press, 1961.

2. Kalisky, L. The brain-injured child: Learning by living in a structured setting. Am. J. of Mental Deficiency, 63, 4, January 1959, 688-696.

3. Johnson, D. and Myklebust, H. Learning Disabilities: Educational Principles and Practices. New York. Grune & Stratton, 1967.

4. Myklebust, H. Auditory Disorders in Children. New York, Grune & Stratton, 1954.

5. Strauss, A. and Lehtinen, L. The Psychopathology of the Brain-Injured Child. New York, Grune & Stratton, 1947.

WORKSHOPS

Conference registrants were assigned on random basis to five workshops, each of which met for two sessions of at least ninety minutes each.

Workshop leaders were:

Mrs. Hortense Barry

Miss Barbara Cashier

Miss Joan Godschalk

Miss Dorothy Hammitt

Miss Laurette Herman

Mrs. Margaret K. Wallin

All workshop participants were asked to direct their attention to the implications of the speakers' major points to educational and professional programming for the pre-nursery and nursery age hearing impaired child. Questions listed on the following sheet were suggested as guidelines.

Because discussion in the workshops ranged so far and wide in relation to the questions posed for consideration, summarizing proved to be difficult. The most important outcome of the sessions was, beyond a doubt, the personal exchange of experiences and insights.

Editor

WORKSHOPS

Tuesday: Language and Learning Disability
Wednesday: Sensory-Motor Development

Workshop groups are assigned the task of reacting to the speaker's presentation for the purpose of implementing the program - whether in a group or an individual setting. Therefore we suggest that in the time allowed you direct yourself to considering some or all of the following questions:

1. What are some of the implications of today's topic for the teacher and other practitioner in programming for

    a. assessment of function?
    strengths - weakness

    b. development of positive function?

    c. remediation of dysfunction?

2. What additional understandings, skills, and/or knowledges do practitioners need? How can they be acquired? Are attitudinal changes among these?

3. What disciplines other than education are needed for adequate programming? (Have we identified them all?)

    How do teachers and other practitioners function together?

    What contributions are made by each?

    How is coordination effected in

        programming?
        evaluation?
        revision?

PERCEPTUAL MOTOR EXPERIENCES

(The Dynamics of Sensory Motor Experiences - Ages 0-6 Years)

Iselyn V. Maughan, O.T.R.
New York State Rehabilitation Hospital

I. INTRODUCTION

A. First Recognition of a Problem

In the field of education, as well as in clinics providing therapy for neurologically impaired children and adults, there has been growing concern expressed about unusual and/or inconsistent quantity and quality of performance and/or behavior. The manifestations could not be easily categorized under the heading of emotional disturbances and in many cases especially in regular school, the inadequate performance of the individual could not be related to retardation in the pure sense of the word. Many of these individuals were testing in the normal to better levels but their everyday performances were far from academically acceptable. These children manifested psychological characteristics such as: distractibility, motor disinhibition, perseveration, dissociation, disturbances of figure/ground relationship, and the absence of a well developed self-concept, body image and body in space relation. Like so many other observers, Dr. Cruickshank noted catastrophic behaviorial reaction and instability of performances on a day to day basis.

Within the last two decades, psychologists, physicians and educators from laboratories to classrooms, have been tackling the problems of youngsters with these responses. Many articles and books describing the performance of the children refer to them as minimally "brain injured". These manifestations of brain injury are not unconditionally present in children with post encephalitic conditions or cerebral palsy although both situations are the result of insult and or trauma to the brain.

In the meantime, a great deal of attention is being paid to recognizing the presence of perceptual-motor dysfunction, providing methods of modifying and improving the fragmented performance it precipitates and also attempting deeper analysis and standardization of normal perceptual processes from a developmental and even a neurophysiological point of view.

As educators and therapists, especially those working with preschool children, it is imperative to sharpen our sights, not only by being aware of motor development described by Gesell but the intergrative process of perception which must proceed meaningful motor activity. Gesell, Piaget, Strauss and Kephart and many others notable in the field have provided a wealth of material on the subject.

B. Our Subject, The Human Baby - How Plastic Is He?

During the first years of life, the infant's brain triples in size. Long before birth, the 10-12 billion nerve cells of our brain were generally considered to be formed for life. Advanced technology revolutionalized our thinking concerning the expansive potentials of the brain by bringing to our attention the fact that the connecting units, dendrites, nerve fibers, are far less numerous in the new born and even the developing infant than in an adult. Educators, etc. were encouraged by such facts that these connecting links grow at a tremendous rate during early childhood, and their growth is apparently stimulated by the activity of the nerve pathways leading to the brain. Therefore, externally and internally caused stimulation affects the developing brain. During the late 50's and early 1960s observers viewed the potentials of the brain as being subject to environmental change, both positive and negative. In October of 1967, further research at MIT reported by psycho-physiologist Joseph Altman indicated that the majority of a class of neurons in some important regions of the brain are formed after birth not before. The far reaching implication is that the influence of environment on the muscular coordination and other activities takes place at a more fundamental level than previously supposed. (Science Research, October 1967)

Dr. Altman suggests the hypotheses that the growth in population of macroneurons occurs during infancy in response to feedback from the environment rather than merely as a genetically directed process that (just) happens to take place in the post natal period. The microneuron develops after birth and permeates surrounding areas with numerous connecting units. Dr. Altman suggests that perhaps in man and other higher mammals, microneurons which develop after birth and elaborate during early infancy and perhaps during life are possibly the physiological mechanism underlying long term memory.

Dr. Wilder Penfield, a neurosurgeon and for 25 years the Director of the Montreal Neurological Institute of McGill University, states that the uncommitted cortex is the part of the human brain that makes man teachable and thus lifts him above all other species. Dr. Penfield has mapped out different areas of the brain function and although the cortex contains millions of cells with portions that have fixed functions, "uncommitted" portions exist. It is felt that there is a time limit to when these brain cells can be activated easily. Sensitivity periods exist in all living organisms, and during these periods or stages of development the physiological state of the growing brain makes certain kinds of learning most easy to acquire. After these sensitive periods, it is difficult, or sometimes even impossible, to acquire these kinds of learning. Experimentation on lower animals indicates even more fixed readiness levels and literature or "Imprinting" describe numerous examples of the effects of optimum learning stages.

Dr. Benjamin S. Bloom, Professor of Education at the University of Chicago and former President of the American Educational Research Association, noted in his book, "Stability and Change in Human Characteristics" (New York, John Wiley & Sons, Inc., 1964), that at age four a youngster has already developed half of his total adult intellectual capacity and 80% at age eight. "After age eight, regardless of what type of school and environment (the) child has, his mental abilities can only be altered about 20 percent." In most incidences, an individual's I.Q. seems to stabilize at its adult level by about age seventeen.

C. What is the Nature of Perception?

Perception involves a complex system of integration between the various sense fields and between present and past sense impressions and out of this, integration grows, and the impression of relationship upon which action is based. A disturbance in perception may therefore occur at any point in the process. It may be a disturbance of the sense organs, it may be any disturbance of the response capacity by which the organism reacts with its perception and set of feedback mechanism which controls them. Whenever the disturbance occurs, it interferes with and distorts the picture which the child has of the world around him and as such is a disturbance of perception. To say that he has a perceptual disturbance, therefore, is not to imply that the function of the sense organs is necessarily impaired. But all sensory avenues must be checked to rule out associated defects.

D. General Neurophysiology of Perception

Repeated stimulation of specific receptors or sense organs will gradually cause the nerve cells of associated areas in the brain to form an "assembly", or single image or idea. If two or more different cell-assemblies are repeatedly active at the same time, they will tend to become associated, so that activities in one facilitate activities in the other. Grouping qualities of the brain are in part the main reason for stressing the multisensory approach to perceptual and sensory motor problems and all learning experience in general.

In summary, the normal human is born with certain genetically determined abilities. At this time, the therapists and teachers are no longer imprisoned by concepts that imply static human potentials. Now we are informed of the significant maturing and even developing potentials of the brain after birth which in turn alerts us to our responsibility to satisfy and even saturate an infant's or child's needs for environmental stimulation. This stimulation is so crucial that unless it is met naturally, the human baby can be subject to stagnating development that may be difficult if not impossible to recapture.

Whether a child is the product of a primitive society or highly technicological society of year 3,000, his ability to fulfill the requirements of his environment are learned and learning requires experience. Our appreciation of the normal child's ability to attend to, understand and manipulate his environment must be consciously analyzed. As we work with youngsters who are handicapped, we must be aware of all learning situations that are necessary for him to compensate for his disability. Our full appreciation of a normal child's potentials for development will enhance our ability to provide an optimum environment in which our handicapped children can obtain the maximum capacity for learning.

II. SENSORY DEVELOPMENT

Perhaps it will be helpful to you if I sketch some timetables of sensory and perceptual-motor accomplishments an infant or child is able to master.

A. TASTE

At birth, the crude sucking reflex called rooting is present. Survival depends on food intake which is enhanced by the infant's ability to taste. Both newborns and prematures demonstrate differentiating taste ability. By grimacing, tightening the eye lids, protruding his lips and tongue and even gagging or flinging his arms and legs, the newborn will reject unpleasant tasting substance such as liquids containing specific concentrations of salt, vinegar or lemon. These substance make for interesting matching games at age 2 and 3. The newborn's reaction to sweets is usually characterized by sucking and licking movements. The facial expressions of newborns have led some observers to state that at age babies have different reactions to bitter, sour, sweet, and salty solutions. According to Dr. Wetzel, the area of taste sensitivity of the oral mucosa is still more extensive in the infant than the adult. Histological changes during childhood result in a concentration of the taste receptors along the edge of the tongue. Most of us use taste to enhance our appreciation of food, some make a speciality out of acute taste facilities like degustators.

B. TEMPERATURE

Gross awareness of temperature is present at birth, babies shiver, etc. when cold and relax in comfortable warmer temperatures but react to higher temperatures with fretful movements. The baby signals his dislike for wet diapers by fretting as the warm diaper cools.

Temperature variances activate motor activity and can be used not only to soothe but to stimulate a child. We are all familiar with play experiences of matching and identifying temperatures which interest children over three.

C. TOUCH

The newborn usually reacts to touch with undifferentiated movements. Since his body is and should be continually bombarded by tactual stimulation, in order to elicit a specific response, tactual stimulation has to have a higher level of intensity than an adult finds necessary to initiate a response. Usually, the child will react with a withdrawal response characteristic up to age 18 months. Repeated stimulation generally goes ignored unless you vary the location, intensity and quality of the stimulation. Babies enjoy certain levels of tickling and almost insist that you continue. He enjoys the contact and gradually he learns to modify his motor response so that he withdraws a limb or finger instead of his body as he playfully teases you back. Baby handling for activation of generalized and finally specific motor responses is recommended highly. Tactual discrimination becomes so refined that a child and an adult only differ three mm in their perception of two point stimulation on the tip of the middle finger. The early performances of blind children learning Braille sharply demonstrates the extensive discriminatory abilities touch reception provides us with.

The infant couples many tactual stimulations together each time he manipulates or contacts an object. By the time he is 2½ to 3, all common objects he uses regularly are identifiable by touch even when he cannot see them. This type of perceptual motor performance is called stereognosis, a learned skill, so well developed that by age four the child can match unseen forms he is feeling and describe surfaces and structures he has never seen. Therefore, as adults, you and I know the difference between a penny and dime tucked deep in a pocket. Now the experience of touch and tell games and match the texture activities have deep meaning to you and me.

Another sensory motor accomplishment that works hand and hand with tactual perceptions is the ability to perceive line impressions etched on the body. Sometime described as graphesthesia, it is the ability to perceive and recognize a series of tactual impressions. The ability of a four year old to respond to geometric forms traced on his body or to know his glove is falling off and therefore catch it are examples of this perceptual motor process. This ability permits us to respond appropriately to this type sensory situation without wasting time and motion.

Related to tactual and graphesthetic experiences is the ability to recall our own well developed motions without having to see what we are doing. Kinesthesia is an ability to perceive motion and duplicate or recall it without sight. For you, writing, typing, bowling, driving, turning off the gas on the stove are virtually accomplished unconsciously. But we are fully aware of the hit and miss and mostly miss attempts of a baby trying to get his finger on his toe or his spoon to his mouth. Non visually controlled activity is necessary before the mind can freely take on other tasks. You may have seen "awkward" children who virtually seem to be consciously walking much as would be expected of an eleven month old or you and me on skis. The mastery of blind folded motor acts becomes imperative to all effortless motion and is more than just games for our 2-6 year old.

D. VISION

Our world is visually and auditorially oriented and the impressive role of the eyes is learned. Our eyes interpret reflected light impulses and never contact the source, without tactual, kinesthetic, and motor experiences, the brain's interpretation of the stimulation received through the eyes, is markedly handicapped. We cannot observe, understand and program our performances without the proper interrelationship of tactual and visual experience. At birth, the eyes of the human baby weigh 2.20 grams and double the first year and triples in weight by the 15th year when this growth process tapers off. The size of the cornea is adult size at birth, accounting for the large eye look of any baby. All parts of the eye necessary for sight are completely formed at birth but retina development controlling visual strength was not thought to approach the adult level until the third year. At birth, the infant is aware of light and no light, his first true looking is monocular, he fixates the near objects of interest by aligning the active eye and relaxing or closing the subordinate eye. Soon after, the monocular fixation alternates rapidly between two eyes with a rhythmic excursion of the head from right to left to right. At eight weeks of age, simultaneous convergence occurs continually. The one month older will follow moving stimulus through a 90° arc within two feet and sometime less. Within a week or two, he follows moving persons. By the third month and even earlier, he is able to follow moving objects in all planes using both convergence and following type movements. His eyes search for sound which is another highly complicated developmental milestone. The fourth month permits him to follow light incoordinately and follow moving objects when he is held in sitting. His acuity is 20/400. By six months, he fixates on string, responds to images in a mirror and absorbes visual experiences like a sponge. The ninth month marks the formating period of depth perception and by 12 months acuity is approximately 20/200. By two years and less, the visual motor control is as proficient as yours, so that the youngster should be able to pursue a visual stimulus in all planes, stop and start, visually pursue a subject without blinking, overshooting, losing or racing ahead of the visual cue. He can visually dart, hold and fixate against a moving or even stimulated background. By the third year, his acuity is 20/30. The human is to respond to a single image flashed on each retina in corresponding 2 mm diameter areas. Cross eyes, amblyopia and numerous other difficulties can obviously retard the formative period when visual experiences are laying their foundations. Multisensory experiences require the integrity of all sensory components. A youngster should not lose out on an optimum sensitivity period when modern technology and knowledge is available. The adult visual world is not one of double visions, fluctuating images or involuntary ocular activity. We are intended to see stereoptically but manage well with only binocular or monocular vision and even no vision at all. But the environment poses unstable situations if you must function like a chameleon. In an effort to respond to only one visual stimuli, vision can be internally suppressed and even secondarily lost in one eye.

Visual recall initially develops for singular experiences. During the first days of life, visual recall prepares the baby for certain events, so that upon seeing his mother approach he stops crying in expectation of her picking him up. Peek-a-boo, and hide and seek are examples of visual recall experiences which delight the six month old. By 12-15 months, a baby seeks hidden objects and by two years of age will be interested in finding what is missing out of a group of three. Recalling a series of visual experiences is responsible for the acquisition of lacing skills at age three. Five and six part sequential visual recall activities are not unusual for four year old children. Visual analogies will interest older children.

E. COLOR

Color is used to intensify, quiet, identify and beautify our environment. The newborn differentiates colors in two to three weeks by shifting his level of attention. By 18 to 30 months, he sorts several colors and may name a preferred color. The three year old can identify 3-6 primary colors and from then on his knowledge of colors can expand like an opening fan. The nature of color makes it ideal for spotlighting subject matter and organizing serial material. A myriad of colors will increase the difficulty of a task.

III. COMPLEX PERCEPTUAL MOTOR SKILLS

A. PERCEPTION OF SPATIAL RELATIONSHIPS, BODY SCHEMA AND POSITION IN SPACE

Through a combination of tactual/visual and finally visual experiences alone, we can organize our own body relationship and finally project this experience onto other objects we see, as they relate to our body (egocentric spatial relationship). Ultimately one can relate an object to other objects without first relating them to ourselves. Body schema, spatial relationship and position in space mastery is developing every waking moment of the first years of life. Rolling, crawling, creeping, walking, climbing, skipping, pushing, pulling, under, through, over, in, next to experiences continually reenforce and formulate predictable patterns of function through the combined experiences of tactual/visual/motor exploration. The fine motor planning control needed to write your name started with the gross motor planning experiences of creeping and imitating of activities, such as "statues" and "Simon Says". The follow the leader activity of a two year old and subsequent finger play control reenforces the tracing accuracy needed to execute a recall symbol such as a letter.

B. PERCEPTUAL CONSTANCY - THE GENERALIZING AND CONCEPTUALIZING LEARNING SHORTCUT

Perceptual constancy is the ability to perceive an object as possessing invarient properties, such as shape, position and size, in spite of the variability of the impression on the sensory surface. A chair is a chair even though contemporary furniture designers make it hard for even the adult to recognize all. The impressions of a baby's mother have meaning to him very early in life but it takes time and experience before he recognizes his mother in a picture. Matching, sorting, grouping activity fills hours of daily play for the two year older and for five or six years to come.

C. FIGURE-GROUND

Figure-ground perception is the ability to select and appreciate a stimuli while the majority of stimuli form a dimly perceived ground. We do this continually, whether we visually point out an object in a picture or from a crowd of people in Grand Central Station; tactually separate the nickle from our change; auditorially listen to spicy gossip at a noisy party; note the right amount of salt on our steak or notice the skidding tendency of our car because the vibrations have changed. At any time, we can shift our point of reference regardless of the extraneous surrounding activity. Getting back to the party we must have all experienced the frustration of trying to listen to three different things at the same time and this exhaustible but conquerable situation is an every moment condition for the growing child. He is continually straining his control over many stimuli that vie for his attention. The teenager considers himself past master of this control by trying to do his homework, talk on the telephone, quiver to the Beatles while hanging off the side of the arm chair backwards. We all know that the mastery of figure-ground relationship control requires that we suppress the extraneous and intensify the pertinent even if it has to be done artificially through isolation, colors, templates and numerous other techniques.

IV. ENHANCING SENSORY MOTOR EXPERIENCE, AGE 0-6 YEARS

A. HOW IMPORTANT ARE SENSORY MOTOR EXPERIENCES?

Whether a child is chronologically a specific age, is functioning mildly or significantly below any given age or has skipped mastery of skills associated with a specific age, he deserves the learning benefits of all age appropriate activities. He should be exposed to them with the proper modifications that will insure its stimulatory effect on him and will encourage him to master the experience.

B. AGE 0-3 MONTHS

Babies two and three days old learn to turn their heads to get sweetened liquids and they can discriminate between tones. Tactually they can distinguish between round nipples and rubber tubing placed between their lips. The newborn spends three percent of the daylight hours paying obvious attention to surroundings. At fifteen days, 35% of this time is spent in visual concentration especially observing hands and fingers and objects at that distance. Extending the field of vision by activities outside of enclosing cribs can boost the time to 50%. Dr. White at the Harvard University's Laboratory of Human Development noted that at four months, babies had visual accommodation skills comparable to those of normal adults. Babies pay more attention to a second or third bright shape than they do when the same design is shown repeatedly. Even newborns prefer complicated patterns, like concentric circles or diagonal stripes to solid colored shapes. Infants less than one month old are able to distinguish stripes as narrow as 1/8 of an inch at a distance of 10 inches. As the baby extends his visual attention, he begins to swipe haphazardly at objects with his hands. By about seventy-eight days, he can raise one hand deliberately and a few days later, both hands. He spends his time fisting things, on the verge of rolling over if given enough room, lifting his head when resting on forearms and rotating his head to every coming event. With this description of early motor and sensory experiences of babies under three months, it is easy to see what percentage of the day is spent awake and how to complement his level of performance with mobiles, suspended toys, open area for him to move in and extend his visual attention. Since he is interested in sound, taste, color and design as well as variance in his tactual and temperature world, it is easy to see how to enrich the environment of a handicapped child functioning at that level. It would seem appropriate that when there is a known or suspected lag in development associated with a special sensory deficit all other sensory units should be stimulated in preparation for meeting the responsibilities of their future compensatory roles.

C. 4-6 MONTHS

During the third, fourth and fifth months, repetition is his major delight, whether it is manipulating objects, practicing his batting average or exhausting your knee by insisting you bounce and support his efforts to stand. He delights in the kinesthetic and tactual experience of exercise, rolling, raising his head, etc. Textures are of interest, so that burlap, satin, velvet, wool, silk, and small blocks of foam rubber, sponge, crinkly paper and wooden toys never lose their appeal. Active exposure can activate a sluggish child to exploration. The bang, squeeze, shake, peek-a-boo, and grab stage is saturated with stimulatory possibilities. The winter born infant who spends his time swaddled in downy-soft baby bunting and weighty blankets may be missing something.

D. 6-9 MONTHS

All the experience of kinesthetic, tactual, visual, taste and form perception is present in the rolling, belly pivoting, crawling, supportive sitting, weight bearing, reach and grasping, transferring, dropping and finger feeding activities characteristic of this age.

E. 9-12 MONTHS

Knowing what sensory and perceptual-motor experiences do for motor and intellectual skills you are prepared to look at the following developmental skills with ideas of how to sustain and enhance the experience. During the last phases of the first year, the youngster becomes a locomoting engineer in that, aside from the mastery of creeping, independent sitting, elevating and lowering himself to and from the floor, he constructs, rolls objects, fills and empties containers, scribbles tentatively and knows his body parts and clothing function well enough to extend his leg when you bring his shoe. He has begun to develop a body schema, and an appreciation for spatial relationships and position of objects in space against a continual world of background stimulation.

F. 12-24 MONTHS

For the next year, walking, assuming standing, creeping upstairs, walking independently, seating himself or squatting in play take up as much time as learning to run from the starting to stopping point. He even can kick while standing. He builds the foundation for future Empire State buildings, handles books, throws inaccurately, strings objects, and undresses when indicated as well as when not. Water play takes up as much time as hand washing and scribbling competes with the formation of vertical lines as to which is really more fun to make on the wall. With a pencil, crayon or paint brush, his kinesthetic control is gross and not easily initiated or stopped, but perseverance is the order of the day and he never stops trying even that which you would prefer he wouldn't.

G. 24-36 MONTHS

His internal organization, perception of spatial relationships and position in space of objects around him permits free sensory motor mastery of tiptoe walking, one foot standing, toe running, tricycle riding, beginning dressing, making circles, as well as anything that requires him to take it apart or put it together. He tends to structure his life and enjoys the same story 20 times, and you may have to button his buttons in the same order each day. But with practice boards, he teaches himself to zip, button, lace and snap. Functional and imaginative play occupy interest as well as spatial relationship toys and puzzles he started with a year before.

H. 36-72 MONTHS

For the next three years, experiences and skills that emerged during the second year expand tremendously. His motor coordination permits him to feel comfortable and at ease on a monkey climb, swing, see-saw, scooter, balance beam or fence. He tackles, skates, skis, jumps rope, creates obstacle courses for his commando and trapeze acts. He explores his motor control to its limits and sometimes yours. When, and if, he sits still, dressing and bow tying is mastered, he handles a knife and fork, learns to write his name, puts together multi-piece puzzles or erector sets and keeps an entire play house in order. He solves pencil tracing mazes, finds hidden figures in pictures and true life and can visualize the design of a simple puzzle without putting it together.

V. CONCLUSION

Early intensified and stimulating multisensory experiences require the recognition and application of tactual, kinesthetic, visual, thermal and auditory information.

Tactual activities start with gross sensory awareness and culminate with blindfolded performances such as bow tying. Kinesthetic awareness can be as basic as indicating which position your arm has been moved to or as complicated as imitating contemporary dance and writing your name in the air. Visual experiences start with visual localization and are proficient when you can scan complicated, moving figure-ground surroundings.

As an educator, you are able to intensify an experience, by separating it subtly or dramatically from its surroundings; i.e., a bright colored circle on a drab piece of wrapping paper, or finding the hidden fruit that will match the liquid you ask your student to drink. You assist the child to build a strong predictable world of similarities and develop awareness of differences.

A child needs to master all body motion from directed rolling to trampoline bouncing before he can sit easily at a desk and write or stand calmly while you attend to another. Onto his concept of the organization of himself he projects the world and finally replaces these surroundings in their proper perspective. Directionality games and experience fulfill his need for order and predictability. Eye pursuit games, finger play, peg and peg board games and "find which finger I touched" as well as "angels in the snow", have new meaning to you and significant experience sources for the child.

Using a battery of perceptual motor tests, I have found it easier to assess each child's individual strengths and weaknesses, I then build a program to strengthen the latter and reinforce the former. This type of orientation has also enriched the experiences of the less handicapped children in our services so that all benefit from a sensory motor oriented program.

The contributions of A. Jean Ayres, William Cruickshank, G. N. Getman, Arnold Gesell, Marianne Frostig, Newell Kephart, Alfred Strauss, Laura Lehtener and Maria Montessori have been invaluable to our investigation of ways to enrich learning abilities for the neurologically involved.

SUMMATION

Dr. Lowell: I am indebted to Miss Eleanor Vorce for the theme of my summary. She reminded me that "truth is in the eye of the beholder." I think that best characterizes my reaction to this meeting.

As an old meeting goer, I recognize there is a dichotomy in the types of meeting that you can attend and I'm not sure I perceived exactly what type of meeting this was going to be. I always hope for the type where they sit you down and lecture to you and you learn a lot of things. That's the kind of meeting I like to go to. This requires that you understand what your problem is; that you have it in clear focus; that you have some definitions and that you have a lot of people who know the answers that they're going to share with you. I think it's obvious that this was not that kind of a meeting. This was not your intention. The intention here was to be informal and exploratory and to provide us all with an opportunity to share our knowledge to date; to explore the boundaries of this problem; and to begin to work on definitions.

The truth, as I see it, suggests we have all been tricked into looking at our old problems in a somewhat different way. I would like to unmask the Cronin, Jacobs, Slater troika that was responsible for this trickery. You know they are really very clever. The title of this meeting was "Early Identification and Education of Children with Hearing Impairment - Ages 0-4." Now I didn't hear anything about early identification. I brought it up in my talk because I was impressed by the title, but I didn't hear anybody else talking about early identification. If we were to talk about early identification, I would have thought that we would talk about how you discover early deafness, and what caused it. Or we could talk about high risk registers or maybe the use of these new computers. But, you see, truth to me is in my own eyes and this was the truth as I saw it. I would have pointed out that the only places early identification works is where one or more individuals want to make it work: when some particular individual is motivated and has the enthusiasm and the sustained interest - that's when it's going to work. And so again this would have been to reinforce what I hoped was one of my points - that you as individuals provide the magic ingredient of early identification.

I also failed to hear any of the traditional discussions about education of deaf children. This was clever, and must have taken some planning because each of us, I'm sure, is interested in this problem as we perceive it. For example, someone said, "We're not just dealing with a deaf child, but with a multiply-handicapped deaf child." Then I realized that in terms of the definition we have been using at this meeting, of course, all deaf children are multiply handicapped and that we must include in our thinking the child with language disorders and the child with perceptual problems.

We're reminded that the hearing impaired child "is a child is a child is a child" by Dr. Almy; that the hearing impaired child has a language disorder by Miss Johnson; and undoubtedly has some perceptual motor disturbances by Miss Maugham. It is interesting that none of these speakers were teachers of the deaf. One would have expected to have asked a traditional teacher of the deaf to point out these things. But no, they went outside our field and got speakers who never really mentioned the traditional problem. I think that this is the kind of jarring of our complacency that is very much needed. The presentations were stimulating, even though frustrating, because I think that it is always on the interface of our professions that we develop the kind of turbulence that is so frustrating and so difficult to break. We all have a tendency to say, "Let them (the outsiders) - if they have any contribution - let them learn about our work and make the translations so that we can apply their knowledge to our problems." We say this to the linguists; we say it to the audiologist or the acoustician, and now here the "Fearsome Threesome" have brought before us three speakers who never tried to make this translation, but who merely told us about the body of knowledge that they have developed in their own independent spheres. They have sort of thrown us back into the turbulence of this interface where it's extremely exciting, extremely frustrating, but certainly where the greatest progress will undoubtedly come.

Let's review what we have heard in the past three days. Dr. Almy provided us with a very salutory reminder that a neurotic verbal deaf child is still a failure. Our specialization makes it too easy to overlook this because we get so interested in the problems of language and language acquisition. She was reminding us that we have to look, if you'll forgive the expression, at the "whole child." She said a lot of provocative things, like: "Thinking is internal experience of delayed imitation." I'm going to have to reflect on that because I am sure it has some implication for very young deaf children. Probably someone will make me eat my words by pointing out that 50 years ago teachers of the deaf had written this someplace and probably said it just as well, but to me, it is a stimulating new thought. This notion of thinking as internal experiencing of delayed imitation is extremely provocative, particularly in our concern with and the development of cognitive processes where the linguistic skill is delayed or retarded.

What use do we make of the tendency for spontaneous practice in 2 and 3 year olds. I am quite aware that hearing 2 and 3 year olds do an awful lot of spontaneous practice, but I am not certain we capitalize on this behavior in our young deaf children. I think this was again a clear-cut indictment of the clever behavior of our program committee - to get us truly excited by their very wise choice of speakers.

When Miss Johnson started out talking about the raw materials, as an old deaf educator, I was looking for a decibel notation or the Fitzgerald Key. Instead, Miss Johnson talked about a lot of other things. She even said she was going to talk about language impairment in children without a sensory impairment. I couldn't see how that would fit into this meeting until I began to realize that every one of our deaf children has the same six characteristics that she spoke about so eloquently. At first I wondered what kinds of information the language disorder people could have for teachers of the deaf. Then I began to see through the clever scheme of the planning committee. Perhaps there is something that we should know - not that the language disorder people can take the work that they have developed to such a high point and translate it completely into our field, but the work they have done in the areas of perception, comprehension, memory and syntax must certainly have more implication for us than we have incorporated into our thinking.

Finally, Miss Maughan's delightful presentation this morning reminded me of that story of the little boy who took a book on turtles back to the library. As he gave it back to the librarian she asked how he liked it. He said, "Not very well because it told me more about turtles than I wanted to know." I found her presentation frustrating because I was not able to keep up with, to assimilate, all her ideas. I thought this was tremendously stimulating to have so much of this information on child development and the perceptual developmental process summarized here so beautifully. I, for one, will be looking forward to the proceedings, so that I'll have an opportunity to use what she has given us here as a valuable summary of this field. She stressed the importance of the multi-sensory experience but didn't tell us what to do when the ears aren't working. She says that when she observes a child and sees one of the developmental stages lacking she knows how far back to go and what the developmental sequence preceding this should have been. I wonder to what extent we are able to do that in our work with deaf children. I particularly liked the sort of neuro-physiological underpinning that she provided for what teachers of the deaf have always stressed; namely, that you have to begin early. But again, this was truth in my eyes.

I liked, particularly, the figures that she had which said that 35% of the time the two or three-month old is using his eyes for exploratory processes. I assume that's 35% of his waking time? Then think what percent of the time he's sleeping, and you realize how little time we have for visual language input.

I thought that maybe we'd come to a full circle here. On Monday I was asking Dr. Almy about the visual linguistic equivalent to the auditory listening that the normal hearing baby does in the crib. Now we learn that these perceptually oriented people, people with perception as their major interest, are addressing themselves to very similar questions. It certainly is a very strong argument for the absolute necessity of involving parents in an educational program. No professional is likely to be around enough of the time to take full advantage of that 65% time that's left of the few waking hours.

I had a disturbing thought when she suggested that they have exercises for teaching a child to suppress the visual background and to attend to the significant aspect of a figure. I can see that in the visual sphere, but how would you train a child to suppress auditory ground through the very poor kind of amplification that we now have for our children. How would you train children to suppress auditory background and to pick out an auditory figure when that figure lacks, at this stage, any linguistic symbolic value? I think this is a challenging way of looking at it and I would like to have the opportunity to explore it in greater depth. One wonders what the similarities might be.

From our panelists we were certainly reminded of the differences in approach, the different perceptions of the truth. I don't think I've ever been to a meeting where people had as many different labels - therapists, teachers, clinicians, tutors, diagnosticians - and yet all sharing this communality of interest.

I suspect that the planning committee knew all along that what they really were talking about was the rubella problem that's facing us, although that didn't appear any place in the program. We are really concerned with definitions and with the size of the problem. The committee was wise enough to recognize that we are still having semantic difficulties - that we were talking at times about rubella children as though they were a unitary phenomenon, as though they were all the same. Perhaps the committee recognized that until we can do some developing and refining of our thinking that we are not ready for the more definitive lecture type of meeting.

We were also concerned here with the training of personnel. What kinds of training are desirable or necessary? If we start adding on the things we might advocate after listening to the very challenging presentations at this meeting, then one wonders what to drop from our traditional training. Does this mean that we're going to have to increase the amount of training for people to deal with this complex problem. This comes at a time when we must also consider the need for developing increased physical plants or at least different utilization of our existing physical plants. All of this must be done in a climate of increasing competition for the support dollar.

In evaluating a meeting of this sort I look at several criteria. First of all, I look for attendance. You can tell if you've had a good meeting by how well people attend and, up to the time I started speaking this afternoon, attendance was excellent.

I think perhaps the one thing I could fault the committee on was their choice of a place to have the meeting. New York City is notoriously one of the worst places to have a meeting because there are so many other competing interests and diversions. We all recognize that perhaps the most valuable contribution that a meeting such as this can possibly make to our professional growth is the opportunity for the informal discussions which go on surrounding the meeting. The opportunity to meet new and nice people, to share with them your own uncertainties, problems and even a few tentative solutions is one of the great values of this particular type of a meeting.

On that count, despite the competition from "flower power," I think that this meeting must certainly be judged an outstanding success. The final criterion I would apply is whether at the end people say, "Whew, thank goodness that's over," or whether they say, "Let's have another one." You have noticed how universally the chairmen of the groups reported that they would like to have an additional meeting, with perhaps a sharper focus, which I think would be possible after this excellent beginning.

In conclusion then, I would say it's been a very good experience for me. I want particularly to thank Miss Cronin, Mrs. Jacobs, Mrs. Slater, the Bureau for Physically Handicapped Children and the New York Schools for the Deaf for inviting me. I hope that at least my own opinion of the outstanding success of this meeting can be conveyed to the Bureau for Physically Handicapped Children because I certainly think that your follow-up meeting should be a most rewarding one.

Thank you.